REPUBLIC OF ZAMBIA

SECOND NATIONAL DEVELOPMENT PLAN

January, 1972—December, 1976

Ministry of Development Planning and National Guidance
P.O. BOX RW 268, LUSAKA

December, 1971

SECOND
NATIONAL DEVELOPMENT PLAN

His Excellency Dr K. D. Kaunda
President of the Republic of Zambia

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FOREWORD BY HIS EXCELLENCY THE PRESIDENT, DR K. D. KAUNDA

With the launching of the Second National Development Plan, we enter into a new era which is bound to present one of the greatest challenges to the masses throughout the Republic and to the Government. As we look back to the seven years gone since Independence, we are happy it has been a period of great success. It is, indeed, a proud record of performance for a young Nation like ours.

While it is not profitable to dwell too much on the past, it is necessary to reflect very briefly on the background against which our development planning is conceived.

The strategy adopted in the First National Development Plan was to establish, in the shortest time possible, a broad social and economic infra-structure. Such a strategy, it was hoped, would provide our young Nation with a solid base for further economic and social development. This has already been achieved with great satisfaction. In the field of education, primary schools have been increased to provide a wide base. At secondary school level, on the other hand, Government has practically reached its target of providing at least one secondary school for every district throughout the Republic.

In order to cater for the greatly increased need for high-level manpower, the University of Zambia was established and is already producing very encouraging results. Parallel to such academic education, Government has established technical colleges to train skilled personnel for the rapidly expanding economy. Training institutions in other fields have also been set up.

As a landlocked country, great emphasis was placed on providing our country with proper communication facilities and alternative routes to the sea. This was a priority matter in the context of the difficult and uncertain political situation in Southern Africa. We have constructed tarred roads to facilitate the transit of our exports and imports. We have also upgraded many gravel roads between country towns and districts. At the local authority level, the local councils have played their part during the same period in improving roads in the townships and in the remote parts of the rural areas.

Air transport has been improved. Apart from the International Airport at Lusaka, nearly every district centre now has an aerodrome or airstrip. The railway transport system in the country has been overhauled, and more reliable services introduced to serve the public and business interests. One of the greatest achievements in the search for alternative routes to the sea is the construction in progress of the Tanzania–Zambia Railway from Kapiri Mposhi to Dar-es-Salaam in Tanzania. It is hoped that this project will be completed within the present Second National Development Plan period. Its completion will no doubt give more development impetus to both Zambia and Tanzania.

A prominent feature, among others, in our First National Development Plan, has been the doubling of our power and energy resources. This achievement has also increased our sense of security in this matter. The Kafue Hydro-electric Power Scheme has since been constructed, while construction work on the Kariba North Bank Hydro-electric Power Station is under way. I am confident that Zambia will shortly be completely self-sufficient in the supply of electricity for both industrial and domestic consumption. Indeed, in the Second National Development Plan we will turn our eyes to rural electrification. This is essential for the development of the rural areas.

On the agricultural and industrial front, Zambia also made remarkable progress during the First National Development Plan. The policy of diversification of agriculture and industry has been embarked upon. Sugar and cotton have seen rapid development, and a good base has been laid down for tobacco and dairy farming. Government participation in major industries has been initiated and economic reforms embracing various types of commercial enterprises have been effected. These measures will enable Zambians to play a significant role in the running of their own economy.

Our deliberate emphasis, in our Second National Development Plan, is on rural development. The objectives in this programme will be mainly to correct the anomaly of lop-sided development that we inherited from the pre-Independence era. It is also necessary to create incomes for rural people in order to generate a large domestic demand. In order to ensure economic and social justice between the rural and urban populations, a conscious effort will be made to multiply and widen the opportunities for all. For us, developing the rural areas is a matter of life and death, though we do not under-estimate the problems involved.

In the field of education, we plan to concentrate on the production of skills—as against general education. This approach will prepare our young population for skilled and semi-skilled jobs. A considerable percentage of the total allocation for education will be directed into technical and vocational education. In order to create more jobs, more cheaply and quickly, emphasis will be placed on the expansion in rural areas of all possible industrial and agricultural activities. Regarding agriculture, it is necessary to secure self-sufficiency in food crops. As a result, we will attend to both agricultural services and to direct production. We are aware that at least 60 per cent of our population grows its own food. Our strategy to encourage food production throughout the country is geared to meet the demand for self-sufficiency in this area. Indeed, we want to see visible development activity wherever there are Zambians. We are for integrated development.

In addition, private and State production schemes will be encouraged. Government will also concentrate on selected Intensive Development Zones throughout the country. Our agricultural strategy in the Second National Development Plan is, therefore, multi-pronged. The approach through Intensive Development Zones does not mean, therefore, that the rest of the rural area is being neglected. Besides, Intensive Development Zones are not urban areas; they are being selected on the strength of their agricultural and general development potential. We are not talking about urbanisation or industrialisation, but about development.

We are broadening our concept of rural development. It is the only way by which the bulk of our people in the rural areas can participate more fully. Our people in the rural areas have agreed to make bricks and burn them in 1972, and to build better homes in 1973. This is our view of rural development, and I do not see Government programmes succeeding in the rural areas unless we can first help the people to help themselves. The people in the rural areas are eager and willing to improve the quality of life but it remains for politicians, planners and civil servants to respond promptly. I reckon that the most important feature of the Second National Development Plan is the participation by the people which I have described.

Indeed, we have provided the infra-structure and the machinery for this vast and country-wide participation. We have legislated for the creation of Village Productivity and Ward Development Committees. It is hoped that the people, the planners and the civil servants will not only see the deep economic significance of this machinery, but also make full use of it. We must first of all succeed in developing the rural areas, no matter what our performance is in other sectors.

As a matter of policy, Ministries will endeavour to implement the rural sections of their development programmes first. For instance, rural housing, rural electrification, rural secondary and primary schools, rural telecommunications, rural roads, rural marketing and credit facilities and rural health services should be implemented as a priority before their urban counterpart programmes. Without pursuing this strategy the rural–urban gap will increase further in the next five years instead of narrowing. If we want to increase social justice both in our economy and in society, the strategy is clearly there, and the politicians and planners must enforce it.

This National Plan is not an end in itself, but a means to an end. It is an instrument for attaining social objectives and the major goal is a better life for all the people. A good life for all the people in the country cannot be accomplished through Government programmes alone. I am, therefore, anxious that para-statal, State companies and private companies, both foreign and local, should also have their own well-defined five-year development programmes. Indeed, I am pleased to note that the share of capital investment outside Government will be larger in this Plan that in our First National Development Plan.

We are also greatly heartened to know that international organisations and friendly foreign Governments will give us a hand in this task of development. This is most encouraging and a source of great inspiration. We believe that this is a vote of confidence in our efforts and our objectives. Besides, we need every outside assistance we can get because we have little control over our major source of income and foreign exchange. We influence neither the supply, demand nor the price of copper.

This is not merely a Zambian Plan. Rather it is our humble contribution to the United Nations Second Development Decade. Our National Plan is concerned with the problem of social justice; so is the United Nations Development Strategy in this decade. Indeed, any global and unqualified improvement in the material and spiritual condition of Man is a vital condition for international peace. We are, therefore, eager to do everything possible within our means to contribute to the betterment of Man.

Finally, the whole Plan is MAN-CENTRED. Citizens of this land, through various development or planning committees at various levels, participated significantly in preparing the Second National Development Plan. It was a typical example of participatory democracy. The Plan calls for self-reliance which is one of the most important principles of our national philosophy of Humanism. I hope that our people will participate fully in the implementation of the Plan, as they did in its formulation.

The Plan is a people's plan. It was designed and formulated by the people for their own development. Government is, in a sense, a mere co-ordinator. The emphasis is on rural development because it is the rural areas that are most in need of development. It is in the rural areas where the majority of our people live. This emphasis should give a fresh impetus to the Government's policy of 'Back to the Land'. We believe in people. Our health, education and social programmes are designed to improve the people's performance. There is no substitution for the people's own participation, motivation and hard work for achieving permanent development.

K. D. KAUNDA,
President of the Republic of Zambia

INTRODUCTION

The Second National Development Plan (SNDP) starts on 1st January, 1972. The First National Development Plan (FNDP) formally ended on 31st December, 1970, but a sum of K172.6 million of capital expenditure was allocated for its continuation through 1971. The year 1971 was designated as a year of consolidation of the gains already achieved by the country.

2. The Nation's First Plan helped to correct certain imbalances in the economy occasioned among other things by past colonial policies and the Unilateral Declaration of Independence (UDI) by Rhodesia, and generally strengthened it for faster development. The FNDP has brought about a much-needed diversification of the Zambian economy by establishing new units of local manufacturing, like textiles, sugar, cement, fertilisers, metal fabrication and several consumer goods industries, in order to eliminate dependence on one export product—copper.

3. The FNDP was formulated on the basis of whatever data that was then available and it took into account mainly those infra-structural requirements that the country urgently needed at that time. The experience gained during the FNDP has made it possible for the SNDP to be formulated in a more systematic fashion, using the better statistical data which has become available in the meantime.

4. Planning in this country has now got a more democratic orientation. This is Humanism in action. In drawing up the SNDP, the Government devised and put into execution a scheme of broad consultation of various interests and groups at all levels of Zambian society.

5. This was intended to create in the people an interest and a sense of involvement in the Plan and its operations in their respective fields and areas. In so far as the Government has ascertained the wishes and needs of the people in different areas of the country in the formulation of the Second Plan, it can be regarded as a people's plan. It is, of course, acknowledged that not all the demands and needs of the people can be accommodated in a single five-year plan. Some of these will be catered for within the longer-term planning process of the country.

6. This process of democratic formulation of the SNDP was achieved in the following manner:

(*a*) *At the National level:* For formulating realistic schemes and programmes in the national sector, fourteen Development Planning Committees were set up in February, 1971. Each committee devoted attention to one subject under the plan, e.g. agriculture, industry, transport, education, health and so on. On each of these committees there were men and women representing the best talent from both the public and the private sectors. Thus, there were among the 150 members of these committees, doctors, professors, engineers, educationists, economists, industrialists, farmers, trade unionists, bankers, administrators and social workers. These committees held altogether about 100 meetings during the months of February to October, 1971, and submitted their recommendations to the Government.

(*b*) *At the Provincial and District level:* In the formulation of the Plan for developing regional and rural areas Government consulted the people in all districts through the Provincial Development Committees and the District Development Committees. The District Development Committees had the task of suggesting projects and programmes for regional development. These suggestions were taken into consideration at the Provincial Development Committee level and wherever possible were included in their recommendations to Government.

7. All these recommendations and suggestions were studied and sifted in the Development Planning Division of the Ministry of Development Planning and National Guidance, in the light of the financial resources available to the Government and a reasonable compromise arrived at in choosing a balanced and integrated programme of economic and social development over the next five years.

8. The SNDP starts with a review of the major achievements of the FNDP. The detailed proposals and programmes for the SNDP, 1972–76, are presented, for convenience of treatment, in three parts. *Part I* deals with National Programmes comprising fourteen chapters each dealing either with a specific sector or area of development of the national economy. *Part II* is exclusively devoted to 'Regional Development'. *Part III* deals with 'Policies and Measures for Plan Implementation'. At the end of the book is appended a detailed Supplement giving the break-down of the sectoral financial allocations and the main projects and programmes constituting the Second National Development Plan.

ECONOMIC AND SOCIAL DEVELOPMENT DURING THE FIRST NATIONAL DEVELOPMENT PLAN

ECONOMIC AND SOCIAL DEVELOPMENT DURING THE FIRST NATIONAL DEVELOPMENT PLAN

An Overall Review

In the short period since Independence, Zambia has achieved important gains in her economic and social development. By increasing control over the utilisation of the resources generated, especially in the mining sector which still dominates the country's economy, Government was able to bring about a substantial increase in the range of social services made available to the people, in employment, in the building up of the economic and social infra-structure and in the diversification of the national economy. A few indicators may illustrate the scope of the development effort and the results which Zambia has achieved since Independence.

2. Gross Domestic Product (GDP) at 1954 prices, rose during the ten-year period before Independence (1955–64) by 66 per cent, at an annual rate of 5.2 per cent or at some 2 per cent *per capita*, after allowing for the population increase during the same period. After 1960, in the years 1961–63, GDP was stagnating. Since Independence, over the period of six years (1965–70) the real GDP increased by 83 per cent at a rate of 10.6 per cent annually or 8.2 per cent *per capita*. This has brought the average *per capita* GDP to an estimated K303 (US $424) in 1970 compared with K126 ($176) in 1964 (all expressed in 1969 prices). About half of this growth in real GDP resulted from very favourable terms of trade which the economy enjoyed due to high copper prices. As a result, the country was able to achieve a high growth rate which has been reflected particularly in her economic and social infra-structural development.

3. Government budget expenditure during the five-year pre-Independence period (1960–64) averaged K92 million annually, which represented 21 per cent of the GDP. The average annual budget expenditure for the years 1967 and 1968, however, rose to K362 million, or to some 38 per cent of the GDP. This has enabled the Government to embark upon a large public investment programme, serving the needs of the people.

4. On the eve of Independence, the country had only some 100 university graduates and 1,200 people with secondary school education—this situation presented one of the most serious bottlenecks in development. During the FNDP period 1966–70, Zambia was able to produce 6,000 secondary school certificate holders, while students' enrolment at the newly established University of Zambia stood at 1,200.

5. Wage employment in the decade before Independence (1954–64) was virtually stagnant, fluctuating around 267,000. After Independence, some 121,000 jobs were created, bringing the number of employed to 390,000 in 1970.

6. The FNDP, covering the four-and-a-half-year period from July, 1966, to December, 1970, was a major instrument of the Government in bringing about all these and other changes. The FNDP had the following main objectives:

diversification of the copper-based economy;

reduction of inherited disparities between urban and rural areas;

expansion of education and training, with the aim of maximum Zambianisation of jobs;

expansion of housing, health and social welfare services; and

extension of the transport and communications network.

Implementation of the First Plan, as pointed out, has brought about substantial achievements in economic and social development. However, there are areas and sectors which did not develop as anticipated and desired. The successes and failures, the discrepancies and deficiencies encountered in the implementation of the FNDP provided a valuable background for a better formulation of targets and strategy for the SNDP. The sections which follow give a brief summary of the implementation of major objectives and targets of the FNDP.

I. General Performance of the Economy

7. There are many difficulties in making an accurate evaluation of the overall performance of the FNDP: lack of data for the end year, inadequate information to assess the growth rate in real terms, expressed in 1964 prices, and the exclusion of the subsistence sector from this evaluation. This last limitation is perhaps applicable to all developing economies. The following paragraphs try to analyse and evaluate relevant aspects of the performance of the FNDP.

A. GROSS DOMESTIC PRODUCT

8. It was planned to increase GDP in real terms at 11.7 per cent per annum as compared to 1964. As Table 1 below shows, this high target growth rate was nearly achieved.

Table 1—Monetary Gross Domestic Product (in 1964 market prices)
(K million)

	1964	1965	1966	1967	1968	1969	1970
Planned (at 11.7% p.a.)	457.0	510.5	570.2	636.9	711.4	794.6	887.6
Actual (10.6% p.a.)	468.0	557.9	636.8	668.1	717.8	884.2	857.1
Actual Annual % Change	—	19.2	14.1	4.9	7.4	23.2	−3.1

Source: Central Statistical Office

NOTE—The comparisons in the above and subsequent tables of this section are made with reference to 1964 which was taken as a base year for computation of planned growth rates in the FNDP. It should also be noted that planned figures for individual years of the FNDP (1966 through 1970) are in fact derived by applying annually a constant overall rate of growth envisaged for the whole period.

9. The rate of growth during 1967 and 1968 fell short of the projected rate of 11.7 per cent per annum, while during 1966 and 1969 it exceeded the planned rate. In particular, the performance during 1969 was impressive, largely due to a substantial increase in copper prices, which offset the slow growth in physical output during the same year. During 1970 the Mufulira Mine disaster, coupled with the restrictive impact of the 1969 budget, brought about a decline of an estimated 3.1 per cent in GDP. As a result, the annual rate of growth of GDP for the Plan period as a whole was 10.6 per cent as compared with the projected rate of 11.7 per cent.

10. Copper prices in the twelve months to mid-1970 averaged K1,038 per metric ton. If the Plan estimate of copper prices is taken into account, thereby eliminating the effect of the favourable terms of trade, even the rapid increases in manufacturing would have been offset by falls in mining and agriculture. On that basis, both GDP and the physical output increased at the annual rate of 6 per cent, which is substantially less than the target of 11.7 per cent of the FNDP.

11. However, even this rate of growth was satisfactory under the circumstances. The performance of the economy during FNDP has to be viewed against the background of the dislocation brought about by Rhodesia's Unilateral Declaration of Independence (UDI), the transport bottlenecks and Zambia's chronic shortage of skilled manpower. Moreover, a large part of the shortfall in real output was in the copper sector, where failure to achieve the Plan targets was partly due to UDI and partly due to uncertainties which delayed investment in this sector. However, the high growth rate of the economy raised the per capita GDP from K126 in 1964 to an estimated K303 in 1970 (1969 prices), thus more than fulfilling the projected target.

Investment

12. The FNDP aimed at raising the share of investment in GDP over the Plan period. Table 2 shows planned and actual levels of gross fixed capital formation for the period 1964–70.

Table 2—Gross Fixed Capital Formation, 1964-70 (in 1964 prices)
(K million)

	1964	1965	1966	1967	1968	1969	1970
1. Planned (at 20% p.a.)	76.2	91.4	109.7	131.6	157.9	189.5	227.2
2. Actual (21% p.a.)	76.2	110.9	150.8	164.4	185.3	214.5	238.3
3. % Change p.a.	—	45.0	36.0	9.0	12.7	15.8	11.1
4. Actual as % of GDP	16.3	19.9	23.7	24.6	25.8	24.3	27.8

13. The Table clearly shows that the actual rate of growth of investment in real terms exceeded the planned rate. In 1969 there was a cutback in Government expenditure on capital account by 19 per cent, to K156.3 million from K193.3 million in 1968, but this did not affect Government investment in plant and machinery. Total gross fixed capital formation in 1970 surpassed the FNDP target level by 16 per cent on a cumulative basis.

14. A further notable feature is that, in real terms, investment as a percentage of GDP rose from 16.3 per cent in 1964 to nearly 28 per cent in 1970. This is an important achievement of the FNDP and is indicative of the fact that the country is introducing structural changes in her investment patterns that are essential for promoting sustained social and economic development.

15. Available data does not clearly show the distribution of total investment between the public and private sectors. However, with the increased Government participation and control in the industrial sector, the share of Government investment in the total must have risen as envisaged in the FNDP.

Private Consumption

16. The planned rate of growth of private consumption in real terms (excluding subsistence) was 12 per cent annually. This rate was based on two assumptions: an annual increase of 5 per cent in real wages for the low income group and 3 per cent for the higher group; and an increase in employment of 100,000 jobs. Table 3 shows that actual levels of private consumption increased considerably up to 1968 but suffered reverses during that year and in 1969 which were not made up by the recovery in 1970.

Table 3—Private Consumption (Excluding Subsistence) (In 1964 prices)
(K million)

	1964	1965	1966	1967	1968	1969	1970
Planned (at 12.4% p.a.)	203.0	228.2	256.5	288.3	324.0	364.0	405.4
Actual (7.7% p.a.)	215.0	249.6	276.0	332.6	326.9	318.5	335.5
Actual % Change p.a.	—	16.0	10.6	20.5	−1.7	−2.6	5.3

Source: National Accounts and FNDP

17. Real wages rose more than anticipated; in 1966, for example, there was a 22 per cent rise awarded by the Brown Commission in the Mining Industry. This induced wage rises in other industries which is reflected in 1967, when consumption in real terms was nearly 21 per cent up on the 1966 level. In 1968 and 1969 private consumption declined as compared with the 1967 level, mainly as a result of a wage freeze. The level eventually reached by the end of 1970 was 17 per cent lower than projected in FNDP for that year. Thus the actual growth rate of private consumption in real terms for the period 1965–70 was 7.7 per cent per annum. One of the factors that has contributed to this phenomenon was the deflationary budget of 1969. Another important factor was that personal remittances abroad in 1968 doubled from the 1967 level of K11.3 million to K26.7 million and again doubled in 1969 to the figure of K54.4 million.

Government Consumption Expenditure

18. Government expenditure on non-durable goods and services was planned to grow at 18 per cent per annum. Table 4 shows that the actual growth rate in real terms was 17 per cent per annum up to 1968. In 1969 and 1970 Government consumption remained at nearly the same level as in 1968—reflecting the effects of the 1969 budget.

Table 4—Government Consumption (In 1964 prices)
(K million)

	1964	1965	1966	1967	1968	1969	1970
Planned (at 18.2% p.a.)	62.6	74.0	87.5	103.4	122.2	144.4	170.6
Actual (10.6% p.a.)	59.4	81.6	82.5	105.8	111.1	109.2	109.2

The planned and actual growth rates differ substantially. What the figures illustrate is that Government consumption had been overplanned. The actual growth rate of 10.6 per cent per annum seems to be more realistic, taking into account the realities of the 1969 budget.

Structural Changes in the Economy

19. Lack of time series data precluded the production of a more detailed analysis of the sectoral origin of GDP at constant prices. Available evidence indicates that, at least so far as the monetary economy is concerned, diversification has proceeded at a satisfactory rate. For instance, a number of new industries have been established and, what is more significant, the increase in the rate of growth of manufacturing output reached 17 per cent per annum in 1969, exceeding the estimated growth rate by 3 per cent. Construction output increased 200 per cent between 1964 and 1968 and though it declined in 1969 as a result of the 1968 credit restrictions as well as the tight budget, it did regain momentum in 1970. In contrast, the performance of the agricultural sector and, indeed, of the rural sector, turned out to be disappointing; the actual growth rate of this sector was only about 3.3 per cent, falling far short of the planned rate of 9 per cent, which, however, was an over-ambitious target. Finally, there is also reason to believe that the policy of import substitution has met with some measure of success. All in all, therefore, it can be stated that the FNDP has made a good beginning in reducing the dependence of the national economy on copper.

B. CAPITAL AND RECURRENT EXPENDITURE AND RESOURCES

20. The FNDP envisaged a total outlay of K1,242 million, comprising K564 million of capital expenditure and K678 million of recurrent expenditure. The actual expenditure for the period 1966–70 was K1,772 million. This expenditure includes an amount of K70 million for 1970 which is purely of an accounting nature being the amount of loans on account of capitalisation of Zambia Railways; corresponding to this transaction there is also an accounting receipt of K70 million for the same year. Excluding this accounting transaction, the actual expenditure for the FNDP would amount to K1,702 million, comprising capital expenditure of K678 million and recurrent expenditure of K1,024 million. The aggregate monetary outlay thus exceeded the planned outlay by 37 per cent. Capital expenditure exceeded the corresponding target by 20.2 per cent, while recurrent expenditure exceeded the target by the substantially higher margin of 50.4 per cent. The share of capital expenditure in total outlays declined from the planned level of 45.5 per cent to 39.8 per cent, but the share of recurrent expenditure increased from the planned level of 54.5 per cent to 60.2 per cent. These data are presented in Table 5.

Table 5—Monetary Outlay During FNDP

(K million)

Type of Expenditure	Planned outlays	Actual Outlays		Percentage increase of	
		At current prices	At 1965 prices	Column 3 over column 2	Column 4 over column 2
1	2	3	4	5	6
Capital Expenditure	564 (45.5)	678 (39.8)	565 (40.8)	20.2	0.2
Recurrent Expenditure	678 (54.5)	1,024 (60.2)	819 (59.2)	50.4	20.8
Total	1,242 (100.0)	1,702 (100.0)	1,384 (100.0)	37.0	11.4

NOTE—Figures in brackets denote percentages of total expenditure

21. As regards Plan resources, including internal and external resources, it was expected that during FNDP an amount of K1,242 million would be raised. Actual resources raised during the period amounted to K1,781 million (at current prices after adjusting for the accounting transaction pertaining to Zambia Railways referred to earlier), exceeding the target by 43.4 per cent.

22. Actual outlays (at current prices) were converted to 1965 prices by using appropriate deflators to enable comparison with planned outlays expressed at 1965 prices. On this basis the actual recurrent expenditure for the FNDP amounted to K819 million exceeding the target by 20.8 per cent while real capital expenditure virtually equalled the target. Thus the Plan targets of resources and expenditures in real terms were on the whole more than fulfilled.

23. In the following paragraphs a detailed analytical review of actual expenditure and resources at current prices is presented. The analysis of expenditure is based on data relating to economic and functional classification of Government expenditure published by the Central Statistical Office.

Pattern of Expenditure during FNDP

24. The period of the FNDP was characterised by a much faster growth in capital outlays (which increased nearly three-fold) than in recurrent expenditure (which increased by less than two-fold). Consequently, the ratio of capital expenditure to total expenditure increased from 35 per cent in 1966 to 38 per cent in 1970, with a corresponding reduction in the ratio of recurrent to total expenditure from 65 per cent to 62 per cent. The share of capital expenditure during the closing years of the Plan would have been higher but for the squeeze in capital expenditure applied by the Government in 1969 to combat the inflationary pressures in the economy.

25. The extent of Government's involvement in the planning process is brought out, among other things, by the increasing share of Government expenditure in the total GDP. This ratio increased from about 33 per cent in 1966 to 40 per cent in 1968, and although it declined to 27 per cent in 1969, partly as a sequel to the scaling down of Government expenditure referred to earlier, the rising trend was resumed in 1970 when the ratio stood at an estimated 34 per cent. For the Plan period as a whole, the ratio of Government expenditure to GDP averaged about 34 per cent as compared with 30 per cent during 1965, i.e. on the eve of the commencement of the FNDP.

26. The economic significance of the increase in Government outlays can be seen in terms of the creation of new or the expansion of existing assets that have resulted from the expenditure. In this respect, it is heartening to note that Government expenditure on capital formation has shown an increase over the FNDP not only in absolute terms, but also as a proportion of total expenditure. Expenditure on gross fixed capital formation in 1970 almost doubled from K53 million in 1966 (21 per cent of total Government expenditure) to an estimated K91 million (22 per cent of total Government expenditure). For the Plan period as a whole, expenditure on gross fixed capital formation totalled nearly K355 million, or an average of about K70 million per year, which was more than three times the amount of gross fixed capital formation in 1965. The increasing role of Government in investment in the economy is evidenced by the fact that the share of Central Government in total gross fixed capital formation, which was about 19 per cent in 1965, ranged higher at between 26 per cent and 30 per cent during each year of the FNDP.

27. In addition to direct capital formation, Government contributed indirectly to capital formation in the economy through provision of loans and capital grants to local authorities, Government enterprises, public corporations, etc. Loan assistance amounted to K209 million for the period 1966–69 or nearly K52 million per annum on an average, as compared with K26 million during 1965. Capital transfers, mainly grants, totalled K94 million or K23.5 million per annum on an average against K22 million in 1965.

28. Side by side with the increase in the expenditure on capital formation, Government expenditure on goods and services also witnessed an increase during FNDP, although its proportion to total expenditure declined. Thus, while the expenditure on purchase of goods and services increased from K74 million in 1965 to an estimated K125 million in 1970, its share in total expenditure declined from 37.6 per cent to 29.7 per cent over the same period. The increase in expenditure has to be viewed against the imperative need for building up the country's administrative machinery in the initial post-independence years. The implementation of the Plan therefore called for a consequential expansion in administrative services. The increase was also in part a result of the rise in prices which necessitated an increase in the emoluments of public servants. In this connection, reference may also be made to the implementation of the recommendations embodied in the Report of the Commission on the Grading, Structure and Salaries (Whelan Report), resulting in a sharp increase in the wage bill of the Government in 1967. For example, salaries paid to Central Government employees, which had increased from about K40 million in 1965 to K42 million in 1966, rose sharply to K59 million in 1967, and increased further to K70 million in 1970. Expenditure on purchases of goods, and services, other than wages, also increased from K30 million in 1965 to an estimated K49 million in 1970.

29. A disquieting aspect of the growth in recurrent expenditure was the sharp increase in the outlay on subsidies, particularly during the first half of FNDP. Expenditure on subsidies increased sharply from K4 million in 1965 to K16 million in 1966 and to K35 million in 1968. In the subsequent years there was a decline in expenditure on subsidies between K18 million and K23 million per annum; however, even this level appears to be rather high. By and large, subsidies have been paid mainly to compensate for the increase in prices so as to protect the poorer sections of the community from the effect of inflation and partly also to meet the

losses incurred by public enterprises. Certain types of subsidies, such as those on maize or on other rural products, are sometimes justified as they help to protect the lower income groups against inflation. However, there is no justification for subsidy on articles of consumption by higher income groups. Moreover, subsidies of any type, whether on maize or on any other commodity, not only result in a misdirection of resources, but are also apt to put a premium on inefficiency unless they are given after careful scrutiny of the various factors going into the cost of production of the commodities concerned, as well as of the overall working of the production units concerned. Minimising the expenditure on subsidies not leading to increased productivity is of crucial importance from the point of view of resources mobilisation, for the resources raised through reduction or avoidance of subsidies could go far in raising the level of Plan outlays.

Functional Classification of Government Expenditure

30. Table 6 presents a percentage distribution of Government expenditure among the major functional heads from 1965 to 1969; data for 1970 are not yet available.

Table 6—Percentage Distribution of Central Government Expenditure

Services	Recurrent Expenditure					Capital Expenditure				
	1965	1966	1967	1968	1969	1965	1966	1967	1968	1969
General Services ..	34.3	29.1	29.5	34.6	27.1	13.3	6.5	6.2	3.7	7.6
Community Services ..	4.7	5.1	2.4	1.5	1.3	5.6	10.8	13.7	14.4	15.5
Social Services	29.1	27.8	26.2	24.6	30.9	23.2	26.6	26.2	19.3	15.2
Economic Services ..	10.2	18.4	26.2	28.2	21.8	26.2	42.9	44.0	54.5	53.2
Others	21.7	19.6	15.7	11.1	18.9	31.7	13.2	9.9	8.1	8.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	110.0

31. It will be seen from the above Table that as a result of the implementation of the Plan, there has been a steady increase in the share of capital expenditure on economic services (agricultural schemes, fuel, power and transport, etc.), and community services (roads and waterways). In regard to current expenditure also, economic services account for a major part of the total expenditure, although social services (comprising mainly education and public health) occupy a more prominent position. It is significant to note that both under recurrent and capital expenditure, the share of general services has shown a steady decline over the years, indicating the increasing priorities accorded to the implementation of Plan schemes. All in all, therefore, the FNDP has succeeded to a large degree in laying the foundation for a sustained growth of the economy in the years to come.

Resources

32. The pattern of distribution of resources during FNDP (planned and actual) is depicted in Table 7.

Table 7—Government Resources During FNDP (in Current Prices)
(K million)

	Planned		Actual	
	Amount	Percentage of total	Amount	Percentage of total
1. Revenue Resources:				
Total—	1,850	84.6	1,556	87.3
In which:				
(a) Income Tax, Mineral Royalties and Copper Export Tax	768	61.9	1,136	63.8
(b) Customs and Excise	132	10.6	227	12.7
(c) Other	150	12.1	193	10.8
2. Capital Resources:				
Total—	192	15.4	225	12.7
In which:				
(a) Domestic Loans	60	4.8	78	4.4
(b) External Loans and Aid	126	10.1	105	5.9
(c) Others	6	0.5	42	2.4
3. Total Revenue and Capital Resources	1,242	100.0	1,781	100.0

33. It may be seen from the Table that the pattern of distribution of resources was broadly in conformity with the projected pattern. Revenue resources constituted the bulk of the total resources and their percentage share in the total was also higher at 87.3 per cent than anticipated (84.6 per cent). It is to be noted that the revenue resources continue to be predominantly copper-based. For out of total revenue resources of K1,556 million, royalties on mineral resources, the copper export tax as well as income tax (a large part of which is also on account of income tax from copper companies) constituted over 70 per cent. The fall in copper prices noted since the middle of 1970 has underlined the need for exploring the feasibility of diversifying the tax structure. Already some measure of diversification has taken place. Between 1966 and 1970, the share of the two taxes mentioned above came down from 81 per cent to 73 per cent. Simultaneously, there has been an increase in the share of yield from customs and excise from 9 per cent in 1966 to 16 per cent in 1970. As domestic production gets under way under the impact of the Plan, there should be scope for further diversification of the tax structure.

34. Capital resources totalled K225 million during FNDP. The ratio of these to total resources at nearly 13 per cent was slightly lower than was anticipated in the Plan (15 per cent). The quantum of domestic loans during the FNDP at K78 million exceeded the Plan target of K60 million, but its share in total resources declined slightly from the planned level of 4.8 per cent. Self-financing items also increased from K6 million to K42 million with an increase in the percentage share from 0.5 per cent to 2.4 per cent. On the other hand, the total of external loans and aid at K105 million did not reach the projected level of K126 million, and their share in total resources amounted to 5.9 per cent as against a planned 10.1 per cent.

35. Aggregate capital resources at K225 million fell short of the total capital expenditure of K678 million by K453 million. However, the surplus on revenue account amounting to K534 million was sufficient not only to cover the shortfall in capital resources, but also to leave a surplus of K81 million. In the Plan, both resources and outlays were expected to balance in the aggregate.

C FOREIGN TRADE AND BALANCE OF PAYMENTS

36. Production and export of copper is the country's chief economic activity. This makes Zambia an export-orientated economy. Export of copper provides over 90 per cent of the country's annual foreign exchange earnings.

37. The period of the FNDP fortunately coincided with a period of rising prices for copper on the world market. This helped in the realisation of high export earnings during 1966-70.

Table 5—Exports and Imports: 1966–70 (in Current Prices)
(K million)

Year	Exports	Imports	Export Surplus
1966	493.4	246.1	247.3
1967	470.0	306.3	163.7
1968	544.4	325.2	219.2
1969	766.5	311.8	454.7
1970	714.8	358.5	356.3

38. Imports showed a sharp increase during the initial years of the FNDP. This was probably due to a higher demand created by a general increase in wages and income that took place in that period. This tendency, however, had been brought under control in the second half of the FNDP period, largely through a conscious Governmental policy of credit restriction and other regulatory measures, the main aim of which was to minimise inflationary pressures but which also served to increase the country's foreign exchange reserves. A noticeable tendency during the FNDP period was the substantial increase in the invisible payment obligations abroad which ate into the considerable surpluses on external trade.

Gold and Foreign Exchange Holdings

39. Sizable foreign exchange reserves were acquired in 1969 from copper exports. Higher copper prices brought in 68 per cent more foreign exchange during the year than in the previous year 1968. This upward trend of foreign reserves continued till September, 1970. Since then, because of a fall of copper prices in the world market, the level of foreign exchange reserves began to decline gradually.

Foreign Loans

40. During the first four years of the FNDP, Government concluded agreements for foreign loans equal to K125 million. About 80 per cent of these have amortisation periods ranging from ten to fifteen years. By far the largest part of the loans were for infra-structural investments, e.g. roads, oil pipeline, power station and education expansion. The annuity payments in the past period amounted to K11 million annually—a light burden for a country earning over K700 million through annual export trade.

41. Government acquired a controlling interest in the copper mines in 1970. The increase of foreign exchange outflow resulting from payment for the acquired shares will be largely offset by a reduction in the foreign exchange outflow due to the decrease in the mining companies' repatriated profits.

D. MONETARY TRENDS AND POLICY DURING FNDP

42. The FNDP placed emphasis on the maintenance of a reasonable degree of price stability (an increase of 3–4 per cent per annum in prices was considered reasonable), not only as an objective but also as a precondition for realisation of the output targets postulated in the Plan. However, the early years of the Plan witnessed an upsurge of inflationary pressures in the economy. The index number of wholesale prices after an initial dip during 1967, rose by 6 per cent during 1968 and by a further 10 per cent in the following year. The consumer price index increased by 8 per cent in 1966, 5 per cent in 1967 and by as much as 10 per cent in 1968. The emergence of inflationary pressures reflected in a large measure the steep rise in monetary demand in the economy relative to the increase in output. For instance, the money supply with the public expanded by 37 per cent during 1966, 17 per cent in 1967 and again by 31 per cent during 1968; the increase in GDP at 1964 prices was 14.1 per cent in 1966, 4.9 per cent in 1967 and 7.4 per cent in 1968. An increase in net bank credits to Government as well as to the private sector mainly contributed to the increase in the money supply during this period. Part of the inflation witnessed during this period was also imported. This was inescapable given the country's dependence on imports for a large number of products. The unit value of total imports increased by nearly 10 per cent between 1966 and 1968, the bulk of the increase taking place under crude minerals and mineral fuels; the unit value of exports showed a smaller increase of about 5 per cent during the same period. No doubt cost factors did contribute to the inflationary pressures but it would appear that their role was much less pronounced than demand factors. Between 1966 and 1968, the index number of wholesale prices of consumption goods increased by 22.6 per cent; the corresponding increases in the indices of goods for capital formation and goods for further processing were 16.2 per cent and 12.9 per cent respectively.

43. Measures of fiscal and monetary restraints were introduced to contain the inflationary pressures. In the fiscal sphere, capital expenditure of Government was reduced in 1969 to K156 million from K193 million in the preceding year. The measures of monetary restraints which were adopted in 1968 and subsequently modified in 1969 were in support of the economic reforms proclaimed by the President at Mulungushi and Matero, but their underlying objective was to put a restraint on the volume and direction of bank credit. The measures were directed towards discouraging the flow of credit to non-Zambians. In pursuance of this the Bank of Zambia issued a directive in April, 1968, requiring all commercial banks to submit, for prior approval, all applications from non-Zambian individuals and companies for overdraft facilities, as well as their renewal, for amounts exceeding K1,000 per individual. In July, 1968, the Bank of Zambia announced its decision to restrict acceptance for discount only to commercial bills the value of which individually was K10,000 or over. Another far-reaching measure was also adopted, designed to check the tendency of foreign incorporated companies in Zambia to rely on bank finance, rather than on re-investment of profits for expansion of business. According to this measure, the commercial banks were called upon by the Bank of Zambia to ensure that in any year the amount of remittance on account of profits or dividends did not exceed 30 per cent of the equity capital or one-half of the net profits, whichever was lower. As a result of the Matero Reforms announced by the President in August, 1969, the credit control measures were modified. Accordingly, companies in which over 51 per cent of the capital was owned by Zambians (as against 100 per cent ownership hitherto) were exempted from the purview of the credit and exchange control. Finally, an element of selectivity was also introduced in control of credit; for example in the agricultural sector, flow of credit for commercial crops like cotton and tobacco, and to cattle and dairy farming, etc., was encouraged rather than credit for purely food crops like maize.

44. The foregoing measures on the whole achieved the desired objective of controlling the expansion of money supply as well as keeping prices in check. The rate of growth in money supply was restricted to about 6 per cent each during 1969 and 1970. The increase in the index

number of wholesale prices during 1970 was only nominal, about 1 per cent. The rate of increase in the index of consumer prices came down to about 4 per cent during 1969; during the first nine months of 1970, the increase was even less at 1 per cent.

45. The increase in money supply during the last two years of the FNDP stemmed largely from the steep increase in the foreign exchange reserves, which was offset partly by the decline in net bank credit to Government. Net bank credit to the private sector also showed a decline in 1969, but during 1970 it showed an increase reflecting in part the spread of Zambian controlled industries, through INDECO and MINDECO.

46. Reflecting the over-extended position of commercial banks during the earlier inflationary phase, the liquidity ratio of banks had declined steeply from 53.5 per cent in 1965 to 34.1 per cent in 1968. With the sizable addition to foreign exchange reserves during 1969 and 1970, the ratio moved up to 42.8 per cent in 1970. The high liquidity position of commercial banks enabled Government to siphon off surplus funds in the economy through issue of Treasury bills as well as through long-term loans. It may be mentioned that the Treasury bill rate dropped from 4.46 per cent in 1968 to 3.3 per cent in 1969 and to as low as 1.13 per cent in June, 1970, presumably reflecting the comfortable liquidity position. Government was enabled to offer long-term loans in the market at terms more advantageous to it. The rates of interest offered on long-term loans were reduced from 6.5 per cent in 1969 to 5.75–6.50 per cent in 1970. The corresponding rates for short-term loans also declined from 5.75 per cent in 1969 to 5–5.75 per cent during 1970.

E. POPULATION, EMPLOYMENT, WAGES, PRODUCTIVITY AND MANPOWER

Population Growth

47. According to the 1969 census, the African population of Zambia increased during 1963–69 by 17.3 per cent, an annual rate of growth of 2.7 per cent as compared to the FNDP estimated rate of growth of 3.3 per cent per annum. The intercensal period witnessed an unprecedented growth of urban population of about 60 per cent, an annual rate of about 9 per cent.

Employment—General Review

48. One of the major objectives of the FNDP was to provide additional wage employment of at least 100,000 by 1970. According to available statistics, wage employment increased from 313,000 in June, 1966, to 390,000 in December, 1970, an increase of nearly 24 per cent, indicating a shortfall of 17,000 from the FNDP target of 407,000 jobs. Even prior to Independence and as early as 1954, Zambia employed 265,000 workers in the organised sector of the economy. But there was no significant improvement in the employment position till the end of 1964 when the country became independent. During the year of Independence, the total wage employment was no more than 269,000. In between 1954–64, employment fluctuated and was the highest during 1960 when it was around 277,000. The construction industry exercised a dominant influence on the trend of employment during FNDP—a rapid rise in employment in the years 1965 and 1966, the subsequent slackening in the rate of growth in the years 1967, 1968 and 1969, and recovery again in 1970. Manufacturing, Commerce, Transport and Communications registered gains from 1965 onwards, while Mining and Quarrying progressed slowly. Table 9 sets out the FNDP target of wage employment in the various sectors by 1970 along with the actual achievement by December, 1970.

Table 9—Planned and Actual Wage Employment in 1970 in various Industries
(thousands)

Industries Division	FNDP target of wage employment	Wage employment in December, 1970	Difference Surplus (+) Deficit (−)
1. Agriculture, Forestry, Fisheries ..	47	34.6	−12.4
2. Mining and Quarrying	57	64.1	+7.1
3. Manufacturing	40	36.3	−3.7
4. Construction	75	73.8	−1.2
5. Electricity, Water, etc.	4	3.2	−0.8
6. Commerce	44	32.5	−11.5
7. Transport and Communications ..	19	23.1	+4.1
8. Services (excluding domestic) ..	86	87.2	+1.2
9. Domestic Service	35	35.0	—
All Industries	407	389.8	−17.2

Source: (i) Monthly Digest of Statistics, CSO, with slight adjustments in the mining sector.
(ii) FNDP.

49. The shortfall by 17,200 in the achievement of the overall employment target of FNDP was mainly due to a deficit of 12,400 in agriculture and of 11,500 in Commerce. Mining and Quarrying, and Transport and Communications exceeded the target by 7,100 and 4,100 respectively. The fall in employment in the commercial agricultural sector was particularly disappointing. This was due partly to the departure of many expatriate commercial farmers, not entirely replaced by Zambians, and partly to the rise in labour costs which encouraged diversification into less labour-intensive methods and commodities. With the development of State farming enterprises, however, public sector agricultural employment increased by 76 per cent between June, 1966, and December, 1970. As regards Commerce, the total average employment showed a gradual increase from 23,800 in 1965 and 27,800 in 1966 to 35,500 in 1969. In June, 1970, it fell to 33,600 and by December, 1970, to 32,500.

50. Out of the estimated total increase in wage employment of 77,000 between June, 1966, and December, 1970, the public sector accounted for 42,300, which represented 45.8 per cent increase in public sector employment as against a rise of only 15.7 per cent in the private sector.

African and Non-African employment

Table 10 gives the wage employment of 'African' and 'Other' employees during the years 1960, 1964, 1966 and 1970 (December).

Table 10—Wage Employment: 1960, 1964, 1966 and 1970
(thousands)

Year	Total Employment	Agricultural Employment (Commercial)	Non-Agricultural Employment
	African Employees		
1960	244.0	37.0	207.0
1964	237.0	34.5	202.5
1966	296.1	32.1	264.0
1970 (December) ..	356.0	34.1	321.9
	Other Employees		
1960	33.0	0.7	32.3
1964	31.7	0.7	31.0
1966	29.1	0.4	28.7
1970	27.5	0.5	27.0

Source: Monthly Digest of Statistics, CSO (unadjusted figure for December, 1970)

51. Two features emerge from Table 10—the decline in absolute terms of non-African employees and the rapid increase of African employees in sectors other than agriculture. In 1964, non-African employees (mostly European) accounted for 13.3 per cent of total non-agricultural employment. This percentage has declined to 9.8 per cent by 1966 and to 7.7 per cent by December, 1970, bringing out the extent of progress in Zambianisation. The total African employment increased between 1964 and 1970 at an average rate of 6.5 per cent a year as compared to the population growth of 2.7 per cent per annum during the same period.

Wages: General View

52. The FNDP envisaged an increase of 5 per cent per annum in the wage levels for low income earners and 3 per cent per annum for high income earners. Wages in Zambia are high as compared to those in the neighbouring countries. These high wages as well as the rapid increase in the wage levels since Independence are mainly due to the influence of the mining industry. The high wages in the mining sector acted as a kind of booster to wage levels in other sectors with much lower levels of wage rates. Although the wages in certain sectors, such as construction, commerce and transport, rose much faster than in the mining industry, the spread between wages in different sectors remained large and even increased, particularly as between the lowest paid and the upper wage levels, as shown in Table 11.

53. Between 1964 and 1970, African wages rose much faster than those of expatriates. In 1964, the average wage of an expatriate was about nine times that of an African, whereas in 1970, it was about six times. In absolute terms the spread remained large. The average figures, however, conceal the fact that the African labour force for a large part consists of low paid manual workers and that expatriates generally hold higher administrative, professional and managerial posts. During the period 1964 to 1970 money earnings of 'African' employees more than doubled (increased by 130 per cent) while those of other employees increased by about 55 per cent. These increases have been partly eroded by the increase in the cost of living. Even taking these increases in the cost of living into consideration, a substantial improvement of

about 8.0 per cent per annum occurred in the real earnings of 'African' employees as compared to 3.0 per cent in respect of 'Other' employees. Thus it is unmistakable that the average Zambian wage earner's standard of living has improved substantially as a result of the wage increases that have taken place since Independence.

Table 11—Annual Wages of African Employees by Sectors: 1964, 1966 and 1970

(Kwacha)

Sector	1964	1966	1970	Percentage increase 1966–70	Percentage increase 1964–70
1. Mining and Quarrying	732	934	1,555	66.5	112.4
2. Transport and Communications ..	482	688	1,034[1]	50.3	114.5
3. Commerce	388	447	795	77.9	104.9
4. Services (excluding domestic) ..	392	526	794	51.0	102.6
5. Construction	286	332	533	60.5	86.4
6. Manufacturing	406	484	802	65.7	97.5
7. Electricity and Water	320	573	927	61.8	189.7
8. Agriculture	176	190	348	83.2	97.7
9. Domestic Service	196	248	280	12.9	42.9
All Industries	382	480	879	83.1	130.1

[1]For the year 1969.

Source: Central Statistical Office: Monthly Digest of Statistics.

Urban–Rural Income Gap

54. Another objective of the FNDP was to minimise the inherited imbalance between the urban and rural sectors, with a view to raising the capacity of the rural sector for transforming resources into social and economic growth. With the available statistical data, it is not possible to arrive at an accurate quantification of the income gap between urban and rural areas. As in many developing countries, the main problem is the valuation of subsistence production and consumption. This information will become available as a result of the 1970–71 Agricultural Census.

55. The average *per capita* income in rural areas has certainly not kept pace in the past few years with urban income levels, but there has been a steady increase in the contribution by the Zambian commercial farmer and, with the improvement in agricultural prices brought into effect in 1970 and 1971, the gap has almost certainly ceased to widen.

56. The past disparity in rural–urban income levels was primarily caused by—

(*a*) the rise in income of urban workers and the concomitant rise in the prices of urban wage goods;

(*b*) the swing in the terms of trade adverse to rural areas, which has reduced the purchasing power of rural incomes; and

(*c*) the almost stagnant agricultural production in the last few years until the upswing of 1970–71.

Among the factors contributing to the improvement of the living standards in the rural areas, special mention must be made of the vastly expanded educational and health services during the FNDP. In addition, there has been a substantial increase in remittances from the urban areas during recent years.

Wage policy

57. The rising level of wages both nominal and in real terms was of some concern during the FNDP period. A voluntary wage freeze was announced by the Government in August, 1969, and a 5 per cent ceiling on wage increases was nationally adopted for 1970. This is to remain effective pending the development of a prices and incomes policy with the objective of increasing productivity and narrowing the gap between urban and rural living standards.

Productivity

58. The data available for estimating actual productivity changes are extremely crude. The possible inaccuracies of employment statistics are also bound to affect the results obtained

on productivity changes. With these qualifications in mind, the available measures of output are compared with the average number of wage and salary workers employed during each year; the resulting ratios are taken as 'Output per worker'. The results of this exercise together with the indices of Money and Real Earnings for certain important sectors of the economy are presented in Table 12.

Table 12—Indices of Productivity, Money Earnings and Real Earnings in the Economy (1964–70)

(Base: 1964 = 100)

	1965	1966	1967	1968	1969	1970
Mineral Production:						
Productivity	103	87	88	96	107	96
Money Earnings ..	113	128	181	171	193	212
Real Earnings	107	112	150	129	141	151
Manufacturing:						
Productivity	85	83	104	113	121	120
Money Earnings ..	120	118	167	156	183	198
Real Earnings	113	103	139	119	134	140
Construction:						
Productivity	115	120	128	132	137	141
Money Earnings ..	113	116	175	227	196	186
Real Earnings	106	102	145	172	143	132
Transport and Communications:						
Productivity	114	86	115	89	94	96
Money Earnings ..	101	143	194	196	215	169
Real Earnings	95	125	162	149	157	120
Distributive Trade:						
Productivity	128	122	124	135	129	141
Money Earnings ..	120	126	183	216	206	205
Real Earnings	113	110	152	163	151	146

NOTES:

1. For the Mineral Production Sector output is represented by CSO's Index of Mineral Production. For other sectors output is represented by GDP (Factor Cost) at 1969 prices.

2. The Indices of Money Earnings and Real Earnings are for African employees only. The Real Earnings Index is obtained by deflating the Money Earnings Index by the Consumer Price Index numbers for low and high income groups combined.

3. There has been a significant increase in value added in the Transport and Communications sectors in 1965 and 1967, as compared with previous years.

59. After increasing in 1965 in the sectors of Mining, Transport and Communication and the Distributive Trade, productivity dropped sharply during 1966 in the Mining and Transport sectors. In the Manufacturing sector there was a drop even in 1965 and a further slight decline in 1966 whereas in Construction there was a gradual increase in productivity throughout. The year 1966 was the first after the Rhodesian UDI and there can be no doubt that the economic disruption caused by that event was the primary cause of the drop. But the position gradually improved except for the Transport and Communications sector where productivity in 1970 was still below the 1964 level, though a recovery was apparent. The Mining sector surpassed the 1964 level only in 1969, to fall sharply the very next year. The recovery started early in the Manufacturing sector (1967) and thereafter gradually improved. Some upward trend was discernible in the Distributive Trade sector. The Construction sector showed a gradually increasing trend throughout. As compared to this pattern of movement of productivity indices explained above, the indices of money and real earnings increased steadily during the period 1964 to 1970.

60. In the interpretation of these indices of productivity, the limitations in data as well as in the method of measurement of labour productivity followed should be noted. The increase in output per worker as indicated by the productivity indices in Table 12 are not wholly attributable to labour efficiency. There are other factors such as organisational improvements, mechanisation (increase in capital employed per worker), etc., which also significantly influence output. This should be taken into account while using these indices in the consideration of wage policy.

Manpower

61. The FNDP stressed the national manpower problem of shortage of persons with skills, education, training and experience and observed that training and recruitment of skilled persons must be expanded if these shortages are not to frustrate the Development Plan. At Independence, Zambia inherited from Britain the apprenticeship system as the only form of training for technical and vocational occupations. After Independence, the situation worsened by the exodus of a large number of skilled Europeans from industries, leaving only a few men to whom the desired number of Zambians could be apprenticed. It has been decided to drop apprenticeship as a method for developing technical, trade and occupational skills as it was considered rather inappropriate to the country's social and economic conditions and fell far short of producing the desired numbers of skilled workers.

62. The establishment of the Commission for Technical Education and Vocational Training in 1968 was expected to improve the technical training facilities in quality as well as in quantity. The basic concept of Zambia's technical and vocational programme is that it is a comprehensive programme embracing education and training required at all levels below the professional and in the total spectrum of occupations. It is a co-ordinated system within which priorities have been identified with the object of preparing trainees for entry into working life and to progress therein as resources permit. Comparisons between the programme proposed in the First Plan and what has been achieved is not possible, since the objectives have changed radically since 1966. It is sufficient to say that past neglect in this field is being rapidly overcome. These aspects are discussed at some length in the chapter on 'Education and Training'. Table 13 gives the 1971 enrolments in the various institutes under the Commission for Technical Education and Vocational Training.

Table 13—Enrolment in Technical Institutions

Category	1971 *Enrolments*
1. Technological	473
2. Trades Training	1,342
3. Applied Arts and Commerce	842
4. Technical Teacher Training	60
5. Nkumbi International College	174
Total	2,911

Zambianisation

63. For the economy as a whole there is evidence that steady progress has been made towards achieving the objective of gradual Zambianisation of the services. In 1968, three committees were established to deal with Zambianisation on a national basis:

(*a*) the Zambianisation Committee for the Mining Industry;

(*b*) the Zambianisation Committee for the Private Sector; and

(*c*) the Zambianisation Committee for the Civil Service.

64. In December, 1964, there were only 704 Zambians in jobs predominantly held by expatriates in the Mines. By December, 1970, the number had increased to 4,661. At the same time, the number of expatriates employed had been reduced from 7,621 in December, 1964, to 3,774 in December, 1970. The percentage of Zambians in all categories of Central Government employment has increased from 70.8 in 1966 to 83.7 in 1971. The percentage of Zambians in various categories of employment in 1966 and 1971 is given in Table 14.

Table 14—Zambianisation in Central Government

Categories of Employment	Percentage of Zambians employed	
	1966	1971 (March)
Professional	17.6	17.7
Administrative and Executive	46.5	87.4
Technical	45.4	67.2
Teachers	82.9	83.7
All Categories	70.8	83.7

II. Sectoral Performance

A. RURAL SECTOR

65. The major objectives of the FNDP were to minimise the inherited imbalance between urban and rural sectors, to pursue rural development and to develop production in agriculture, forestry and fisheries. Increased production was to increase rural incomes and to save or earn foreign exchange through import substitution and increased exports, thereby reducing the country's reliance on copper exports. Increased rural incomes would provide a wider market for the expanded manufacturing sector and would slow migration to the towns.

66. Measured in terms of the rapid movement of population to the urban areas and in terms of rural production, the sectoral performance must be judged disappointing. This should be seen in relation to the overall problems experienced by the economy, in particular the distorting effects of UDI and the urban prosperity generated by high copper prices, which increased the attraction of the towns.

67. Planned capital expenditure in the sector, of K88.4 million, was implemented up to some 76 per cent. The shortfall in capital expenditure can be explained by the lack of skilled manpower to carry out detailed planning and to implement plans, and by inadequate or interrupted supplies of materials, transport and other factors vital to project execution.

Agriculture

68. A comparison between the Plan estimates of marketed production of major crops and livestock products and actual results (Table 15) reveals that the forecast for 1970 was exceeded in the case of poultry products, sugar and cotton. However, a comparison between the performance and the targets must take into account the abnormality of the 1969–70 season, when adverse weather conditions greatly depressed crop production. In 1971 a major recovery in crop production, particularly maize and cotton, was achieved.

Table 15—Marketed Production of Main Agricultural Commodities, 1964–71

Commodity	Unit	Marketed Production (recorded)								Forecast*
		1964	1965	1966	1967	1968	1969	1970	1971	1970
Maize ..	MT	194,010	254,320	377,580	374,680	249,240	253,140	124,370	369,000	361,100
Groundnuts ..	MT	3,630	6,740	11,530	14,810	5,390	7,820	3,270	5,040	19,500
Raw sugar ..	MT	nil	nil	nil	nil	21,500	30,400	40,100	41,500	36,900
Beef ..	MT	12,600	12,400	10,800	9,700	8,600	8,800	11,800	11,800	18,400
Pork and bacon	MT	690	680	870	910	920	930	1,150	1,270	2,000
Poultry:										
Dressed ..	MT	880	1,230	1,920	2,860	4,350	5,170	5,440	6,280	2,950
Eggs ..	000	17,400	22,800	27,000	36,000	54,000	93,000	99,000	105,000	42,000
Milk ..	000 l	20,500	19,800	19,000	18,300	18,400	16,200	15,300	15,300	31,400
Tobacco:										
Virginia ..	MT	10,970	6,610	6,570	4,950	6,290	5,020	4,790	5,910	16,060
Burley ..	MT	1,700	1,990	860	270	290	240	250	390	2,090
Oriental ..	MT	300	530	210	130	110	75	29	5	1,000
Seed cotton ..	MT	1,650	2,270	2,780	1,830	4,250	6,920	5,610	10,890	8,490

* *Source:* FNDP Annexure IV, page 235. MT = metric ton; l = litres

NOTES:

1. Figures for 1971 are provisional estimates.
2. Maize figures only include purchases by Namboard on the line of rail. Total purchases for 1971, for instance, amount to 4.4 million bags.
3. Values at current prices of the total of all recorded marketed production are: 1964, K23.1 million; 1970, K31.9 million; and 1971, K48.4 million.

69. The production targets of the FNDP were in most cases not only unduly ambitious, but the Plan also did not foresee accurately what were the conditions necessary for their achievement. When the Plan was drawn up, the extent of the exodus of expatriate commercial farmers was not fully recognised. The effect of this factor was most significant as far as maize, Virginia tobacco, dairy and beef production were concerned. While State production schemes were established under the Plan, they were mainly for the more specialised crops, such as bananas and tea, and for livestock production, which could not be expected to come to fruition during the period. The concentration of the FNDP and of earlier Government policy on co-operatives, on settlement schemes and on the encouragement of small-scale farmers—methods of development that would take long to yield major production results, even under the best conditions—did not introduce enough new producers to make up for the loss of large-scale farmers as well as to meet increased production targets.

70. Moreover, the small producers, and many major producers, did not respond as expected to the market opportunities as the returns to farmers were relatively unattractive. Prices received for produce compared poorly with the rising cost of inputs and consumer goods. This was partly offset for a period by readily available credit, only part of which has been recovered. In the latter part of the period very little credit was made available and a deterioration in the supply of inputs and services, together with very poor weather conditions, depressed rural production. In the case of maize, at a time of rapidly increasing costs, production was excessively depressed by a reduction in price and official encouragement to reduce maize plantings, following the bumper harvests of 1966 and 1967.

71. As in most areas of the Plan's implementation, the shortage of skilled manpower in the public sector, rapid turnover and frequent re-postings were serious handicaps in raising agricultural production. The co-ordination and efficient administration of input supplies, extension, credit and marketing required more skilled manpower than was available in the Plan period. Similarly, the provision of staff, funds and equipment for the successful execution of projects and production programmes was hampered by competition from the demands being made to provide social and economic infra-structure throughout the rural areas and by chronic transport difficulties.

72. The provision of services to the traditional agricultural sector throughout the country was increased during the Plan period. This involved a distribution of funds designed to improve rural production and living standards on a self-reliant basis.

73. Major problems were encountered in developing marketing services. The National Agricultural Marketing Board (Namboard) was established in 1969 by the merger of the Grain Marketing Board and the Agricultural Rural Marketing Board. Namboard operated with greatly overstrained resources while taking on wider functions than its predecessors. Many of its problems were the consequences of operating in areas where infra-structure had previously been neglected. The entry of Namboard into its new functions went a long way to co-ordinate and augment services, existing or potential, provided by other organisations, including those operated on a co-operative or commercial basis. The belief in some quarters that Namboard's services would, or should, include marketing facilities for all producers through the rural areas was not related realistically to its capacities and to the economics of marketing. Other marketing organisations, particularly the co-operative bodies, suffered from similar problems. The inadequacy of skilled manpower was also a common problem which was not matched by adequate in-service and full-time training.

74. There was an overall increase in the number of extension workers during the Plan period. However, a substantial increase in extension services was achieved only in the lower grades. There was a radical increase in training facilities throughout the FNDP, but professional and senior technical staff remained seriously under strength. Bearing in mind also the need for experience, the main effect of the output of training institutions during the FNDP will be felt in the SNDP.

75. No agricultural credit programme existed for the mass of producers at Independence —hence the establishment of the Credit Organisation of Zambia in 1966. The operations of the Credit Organisation of Zambia (COZ) during the period of its existence, from the beginning of the FNDP to 1970, were characterised by a high rate of default in loan repayment. The purpose of credit was apparently misunderstood and abused, and the administrative structure proved inadequate to allocate, distribute and recover loans efficiently. By 1969, it had become clear that a substantial overhaul of the credit machinery was necessary.

Land Settlement

76. Settlement schemes during the FNDP covered a number of objectives, most of which involved more intensive forms of agricultural production for the small producers, together with a higher level of cash cropping to suit the varied conditions in the different parts of the country, aimed at improving income. All involved the provision of basic services to the settlers, such as credit, some element of subsidy, particularly for land clearance and social infrastructure, management and access to machinery services. Different levels of mechanisation were tried, ranging from Chombwa, basically an intensively mechanised block cultivation scheme with production organised under supervision, to Ngwezi where the emphasis is upon ox-cultivation and the selection of farmers with substantial experience and some savings of their own. Tobacco settlements, involving small acreages under intensive cultivation, also emphasised the role of the individual family, with a minimum of dependence upon mechanisation services.

77. The settlement of families in the peri-urban areas, with little experience save in subsistence agriculture, is best exemplified in the Kafubu–Kafulafuta scheme involving the development of individual units and co-operative services. Where larger units of land are available for settlement of farmers with more experience, Ngwezi emerged as a successful pattern.

Co-operatives

78. At the time of Independence, co-operative development had not made any substantial progress outside the Eastern Province. With the advent of Independence, the political and social significance of co-operation was immediately recognised and, under the Transitional Plan and the FNDP, considerable emphasis was laid on this form of development and, by 1970, there were some 1,200 registered co-operatives, of which about 800 were agricultural producer co-operatives.

79. Experience throughout the world has shown that the development of successful co-operatives is a long-term business. Our difficulties with co-operatives in Zambia are therefore the result of short experience with them. Lack of knowledge in managing co-operatives has marked the introduction of co-operatives with numerous difficulties, including non-repayment of credit.

80. In spite of difficulties stated above and the lack of statistics regarding co-operative production, data collected for the 1968–69 season shows that, in that period, agricultural producer co-operatives sold crops worth some K560,000. Recent trends in co-operative production output show a steady improvement and the output is obviously much higher than that of the 1968–69 season.

81. During FNDP, difficulties with agricultural co-operatives have been more marked in the management of communal co-operatives. It is the intention, therefore, that future emphasis will be laid on the family farm co-operatives, such as Kafubu–Kafulafuta Co-operative Settlement Scheme, which is meeting with considerable success, as well as in the Luapula Province where the production co-operatives are being reorganised on the basis of service unions. In all cases, the importance of training and extension has been clearly revealed.

Fisheries

82. The main objectives in the FNDP regarding fisheries were concerned with establishing the basic economic infra-structure to improve landing, handling, recording and processing of fish. This included the construction of fish markets, fish stores, building access roads, cutting channels, provision of fresh water to fish markets and building jetties. It was intended to increase the efficiency of fishing through making loans available for purchasing nets and other gear, as well as for larger and more efficient craft. It was further planned to set up a central cfisheries research station as well as to expand regional research stations.

83. Whereas expenditure on various projects was estimated, the FNDP did not make tentative targets regarding fisheries projects, e.g. the number of fish markets to be built in four years, etc. Between 1966 and 1969, total expenditure on fisheries projects/programmes was in the region of K2 million, out of which K1.7 million was expended on specific fisheries projects. By 1971 there were forty-one fish markets around fishing centres in the country. In addition, training facilities in improved techniques were made available to fishermen at the major fisheries in Southern, Northern and Luapula Provinces as well as facilities for training in fish culture on the Copperbelt, Sinazongwe, Mpulungu, Nchelenge and Mwekera, respectively. In order to provide more suitable boats for fishermen, a fishing craft development programme, with designs related to the conditions of the various fishing areas, was started. Seventy-eight boats of various types were constructed at the total cost of K35,000 between 1966 and 1969.

84. Under the fish cropping and management scheme, which cost K1,102,000, it was intended to extend the stocking of ponds and dams with fish and develop large man-made impoundments in protein-deficient areas, e.g. North-Western Province. Total Government investment in this venture amounted to K101,000 on about 1,538 fish ponds of one-tenth of an acre each.

85. Recorded fish production has been going down steadily since the 1964 peak of 33,941 short tons. In 1965 production dropped to 31,390 short tons and in 1966 to 30,861 short tons. In 1967 it declined further and reached 29,429 short tons, only to rise again to 31,767 short tons in 1968.

86. There are many factors affecting fish production (number of fishermen and their efforts, transport and market facilities, credit, prices, etc.). A great number of fishermen are badly equipped with respect to boats, engines and nets. They need some fish processing facilities

like smoking drums, ice plants, etc. To buy the equipment fishermen need credit. The machinery for the issue of fisheries' loans was not adequately developed during the FNDP, so that little over half the funds available were actually issued in several Provinces. In 1971, however, arrangements were finalised whereby the Agricultural Finance Company would undertake the issue of fisheries' loans on an agency basis, so that special efforts can now be made to ensure that available funds will be effectively disbursed.

Forestry

87. The activities of the national forestry service during the FNDP followed long-established guidelines. The main objectives continued to be, firstly, the establishment of forests to protect against floods, erosion and desiccation and maintaining the flow of rivers, and, secondly, the eventual achievement of self-sufficiency in timber, together with development of wood-based industries.

88. Good progress was achieved during the period in establishing forest reserves, so that the forest estate at the end of 1970 was 5.7 million hectares, compared with 4.1 million hectares at the beginning of 1966, while the establishment of a reservation of a further 2.6 million hectares was in progress in 1971. However, considerable delays were experienced, particularly in Luapula and Northern Provinces, and there have been threats to existing forest estates with demands that they be made available for agricultural and resettlement projects. Moreover, the need has become apparent for setting aside as forest reserves or protected forest areas the very numerous forests of local importance for protection against soil erosion.

89. With the extension of forest reservations during the FNDP, the work of management in indigenous forests and woodlands was greatly increased. Large scale felling operations were confined to the Zambian Teak and Mukwa areas and to the mine-timber working circle in the Copperbelt Province, while smaller-scale production under licence progressed around most centres of population. The remoteness and poor stocking of the Zambian Teak and Mukwa forests resulted in very low royalty rates being obtained, which were uneconomic in relation to the cost of managing the forests, whose exploitation provides a vital source of income and employment in the area.

90. The FNDP industrial plantations programme was revised and expanded during the period, so that the target has been surpassed. The original programme was to plant 7,300 hectares of pines and eucalyptus, but by the end of 1971 the total planted area was some 12,900 hectares. The plantations, which operate on commercial lines, are being developed to supply a wide range of uses, including saw-timber, mining timbers, poles, wood chips and wood pulp. In 1968, the project became the first forestry enterprise in Zambia to obtain World Bank financial assistance. Good progress has been made in research into the field of plantation agriculture and into the utilisation of timber from both plantations and indigenous forests.

91. Emphasis was given in the FNDP to the construction and operation of pole depots associated with the regional and local eucalyptus plantations, whose number was being increased, and by the end of the period there were six principal depots and numerous sales points at plantations and trading centres. Sales from those local plantations that have reached the production stage have been generally disappointing, partly because of distribution difficulties and partly because of the slow development of the cash economy in the rural areas.

92. Efforts over many years to promote farm forestry and other kinds of private forestry through extension work have met with only limited success, partly because there was little interest in tree planting on land held under customary tenure. There was little progress in improving the standard of pitsawyers, and efforts were diverted to the installation and commissioning of small saw-mills. Some attention was given to the problem of charcoal-making methods and sources of charcoal; by the end of the period it had become apparent that, if wood was to continue as a widely used fuel for large towns outside the Copperbelt, it would be necessary to plan charcoal production using efficient metal kilns.

93. General problems in implementing plans were the shortage of staff, Government budgetary systems that were inadequately adapted to managing commercial operations and to uninterrupted implementation, a relative lack of recurrent funds in comparison with the provision of capital funds and shortages of transport and buildings.

Wildlife

94. The programme for wildlife management outlined in the FNDP comprised projects aimed at improving game production and at conserving, developing and protecting wildlife resources. Strong emphasis was laid on the development of the tourist potential of the country's National Parks.

95. A major project was a programme of game cropping in the Luangwa Valley, which aimed to control certain dominant game animals while making maximum use of meat and by-products obtained. The scheme ran into a number of unforeseen difficulties and after 1969 animals were culled only for research purposes. A national mobile anti-poaching unit was established in 1966, and it operated with reasonable success, in spite of transport problems.

96. Game research programme planned for the period provided for continued range management investigations and for a major land-use survey of the Luangwa. The survey, being undertaken jointly with UN/FAO, encountered some initial difficulties, but is now progressing satisfactorily.

97. During the Plan, a training school was set up in the Luangwa Valley. Manpower problems persisted, with shortages aggravated particularly by the need to use supervisory staff for physical development work, to the detriment of their wildlife management duties.

98. Although the National Tourist Bureau has now taken charge of the development of tourist facilities in wildlife areas, the Department of Wildlife, Fisheries and National Parks played a considerable part in this development. New tourist camps and additional access and tourist roads were constructed, and major improvements and renovations of existing camps, lodges and roads were effected, although developments were not as rapid as the Plan had envisaged.

B. MINING

99. The copper mining industry forms the backbone of the economy. Zambia produced 675 thousand metric tons of copper in 1965 and 684.7 thousand metric tons in 1970, a very low increase of output of only 1.4 per cent over the Plan period with an annual rate of growth of 0.3 per cent. Production was 20.3 per cent less than the high target, and 9 per cent less than the low target assumptions. As the increase by 4.5 per cent in the number of employed persons in the copper industry indicates, productivity per worker decreased slightly. The total employment in mining and quarrying, however, increased by about 10 per cent mainly due to an expansion of non-copper mining activities.

100. The unfavourable trend of physical production was, however, more than offset by extremely favourable development in regard to world market prices of copper during the FNDP. It is estimated that the value of copper output actually exceeded the target by 36.1 to 98.2 per cent of original high and low estimates, respectively. Table 16 depicts this development. The contribution of this sector to the GDP was 42 per cent in 1965, 40 per cent in 1967 and 49 per cent in 1969. It is obvious from these figures that the price of copper was as much an important influence as increased development in other sectors of the economy.

Table 16—Indicators of Copper Production

	Plan Target	1964	1965	1970	1970 as % of the Plan	Index 1970 (1965 = 100)	Annual rate of growth 1966–70 (per cent)
Copper production .. Thousand metric tons	High: 858.8 Low: 752.2	633.8	675.0	684.7	91.0	101.4	0.3
Gross output .. Value (current prices)	High: 573.6 Low: 394.0	280.4	343.2	673.0	136.1 198.2	196.1	14.1
Employment[1] ..	57,000	49,718	51,597	53,900	94.6	104.5	0.9

[1] Copper mining only.

101. The year 1970 witnessed a major mine disaster in the country. The Mufulira Mine disaster adversely affected the output of copper, production costs and Government revenues.

102. Copper mining holds such a key position in the economy of Zambia that in any programme of economic development it has to be controlled by the Government. Mining, refining and export of copper together with other connected activities generates a high percentage of Government revenues, forms the bulk of the country's exports and is the third largest employer, accounting for nearly 15 per cent of wage employment in the country. In 1970, Government took control of the copper mines in the country by acquiring 51 per cent of the equity in the existing companies. This was in order to safeguard national interests. By this measure, Government has assured itself of a commanding position in the major economic activity in the country. A separate para-statal body, the Mining Development Corporation (MINDECO), was set up to handle the mining business interests of Government on a commercial basis.

103. To promote the copper mining industry, as also other mining activity in general, the Government promulgated new laws regulating mining operations and taxation during the FNDP period. The previous system of copper royalties and export taxes did not suit the needs of development adequately, in so far as these were pegged to sale prices of copper only, disregarding other factors like cost of production, etc. The new tax system is development-orientated. It also provides for capital costs to be deducted from profits prior to taxation by the Government.

104. The control over the mining industry gained during the FNDP by Government will enable it to expand the industry on modern lines as well as to go into new mining ventures relating to minerals other than copper.

105. The main attention in the FNDP was focused on copper prospecting, exploration, development, mining and metallurgy. This did not mean that the prospecting, exploration and development of non-copper minerals was neglected. The main breakthrough in non-copper mining was the development of coal mines and the discovery of nickel, which is likely to prove a profitable venture, especially if additional investigations prove that the mineral content as well as the quality of ore are of acceptable standard.

C. MANUFACTURING INDUSTRY

106. Industrial development symbolises the most visible area of economic development of developing countries. The FNDP visualised the setting up of a number of new industries during the Plan period, mainly with the object of import substitution so that local demand can be met by local production.

107. Regular statistical data on industrial activity for the two final years, 1969 and 1970, of the FNDP are not available, but estimates based on indicators show that the First Plan's industrial targets were fulfilled and even exceeded, as Table 17 illustrates.

Table 17—Plan Targets and Achievements

Indicators	Plan targets for 1970	Estimated achievements 1969
Gross output (K. million)	237.3	235.0
Value added (K. million)	90.5	90.0
Employment	40,000	34,570*
GDP growth rate per year	14%	12%
Total wages and salaries (K. million)	29.7	28.3

*This figure rose to 36,300 by December, 1970.

108. It has also been estimated that industrial productivity, in terms of value added per man year, has increased by about 21 per cent over the period 1964–69.

109. As a result of rapid expansion since Independence, the manufacturing industry, in 1968, was able to produce locally an estimated 36 per cent of all manufactured goods consumed in Zambia.

110. The FNDP has added a number of large-scale industrial units to the country's economy. Among these are:

(a) *Zambia Clay Industries*. This factory, located in Kitwe, started production in 1969. It produces 6,200 tons of salt-glazed clay pipes and 2.7 million bricks per year.

(b) *Zambia Sugar Company* started production in 1968. It produces 45,000 tons of raw sugar per year.

(c) *INDECO Milling Ltd* was established in 1968. Production capacity: 40,000 tons of maize meal and 8,000 tons of bran per year.

(d) *Luanshya Brewery*. This plant's capacity was expanded in 1968 to 200 million bottles of beer per year.

(e) *Truck Assembly Plant at Luanshya*. Capacity: assembly of 20 trucks per month.

(f) *Chilanga Cement Ltd* expanded annual capacity in 1969 to 500,000 tons of cement per year.

(g) *Dunlop Zambia Ltd* was started in 1969 in Ndola. Capacity: 100,000 tyres of various types per year.

(h) *Kafue Textiles Ltd* was established in 1970. Capacity: 12.5 million metres of textile fabrics per year. The mill gives employment to 1,000 people.

(i) *Kabwe Industrial Fabrics Ltd* started operation in 1970. Capacity: 5 million gunny bags and 1.3 million metres of hessian cloth per year.

(j) *Nitrogen Chemicals Ltd, Kafue*, started operation in 1970. Capacity: 75,000 tons of fertilisers and blasting compounds.

(k) *Kafironda Explosives* began production in June, 1970. Capacity: 7,000 tons of explosives per year.

(l) *Mwinilunga Fruit Canning Factory*, started by Rucom Industries, began production in 1970. Capacity 300 tons of pineapples per year.

111. In addition, the strategic Tazama Oil Pipeline was completed in August, 1968. This has made it feasible to start with the establishment of Zambia's first oil refinery, the Indeni Petroleum Refinery, Ndola, with a capacity of 650,000 tons of crude oil per annum. The Refinery is expected to become operational in 1973.

112. Another important industry inaugurated by the end of the FNDP was Metal Fabricators of Zambia, at Luanshya, with a capacity of 1,500 tons of copper wire and cable plus 200 tons of aluminium cable.

113. During the FNDP, the Government spent K95 million on industrial development programmes. This is in addition to the investment in industry by the private sector.

Industrial Establishments

114. The total number of industrial establishments increased from 412 in 1965 to 535 in 1969—an increase of 30 per cent. The largest among existing industrial units belongs to the metal working group—largely subserving the mining industry and economic activities connected therewith. The next important is the textiles group. Among the 101 establishments under this category in 1969 only a few were engaged in both spinning and weaving or knitting activities. The majority belonged merely to activities connected with garment making.

115. The food and beverages industry remained static during the period. There was a significant expansion in chemical industries, rubber processing and plastics industries. There was a fall in the number of units producing building materials during the 1965–69 period, as shown in Table 18.

Table 18—Number of Industrial Establishments in Zambia

Category	1965	1969
Food industries	64	65
Beverages	27	7
Tobacco manufacturing	2	1
Textiles	68	101
Leather and footwear	2	4
Timber	40	43
Paper, pulp, cartons	6	12
Printing and publishing	19	23
Chemicals	15	28
Petroleum and coal derivatives	1	2
Rubber products	9	11
Glass and china	1	1
Plastics	2	13
Building materials	51	36
Non-ferrous metals	2	3
Metal-working	98	171
Others	5	14
Total	412	535

116. Two state agencies have been set up for direct participation and pioneering during the FNDP: INDECO in the field of large and medium industries, and Rucom Industries in the field of small-scale rural and agro-industries. Both these state institutions have been instrumental in bringing about several new industrial units in Zambia in the past few years.

D. ENERGY

117. Attaining self-sufficiency in electric power production was considered one of the main objectives of the FNDP. The Plan envisaged a total capital investment of K55 million during the FNDP period in building up the electricity generation and distribution systems of the country.

118. As against this, the actual capital expenditure incurred during the FNDP period was K75 million—about 36 per cent more than originally envisaged. The substantial increase here was mainly accounted for by the Kafue Hydro-electric Scheme.

119. The first stage of this Scheme, which is nearing completion, will provide 600 MW of installed capacity. A 60 MW Hydro-electric power station has already been in operation at Victoria Falls since the beginning of 1969, while a second station with an installed capacity of 40 MW is now under construction there.

120. The next major scheme which was implemented during the FNDP was the K4.2 million Lusiwasi Hydro Power Scheme, commissioned in mid-1970. The Kasama Hydro-electric Scheme is being expanded to furnish an additional 1.2 MW of installed power capacity. Four thermal power stations have been built with the aid of a loan and technical personnel from the USSR, at Zambesi, Kabompo, Kasempa and Mwinilunga in the North-Western Province. Several rural hydro and diesel power schemes are being commissioned to provide power to growing towns.

121. A decision to establish a 600 MW Kariba North Bank Hydro-electric Scheme has already been taken by the Government. The scheme will cost over K53 million. When completed, expectedly in 1974, this large scheme will ensure sufficient power for Zambia for several years ahead.

122. Consumption of electricity in Zambia increased by an estimated 6.2 per cent per annum during the FNDP period. The total estimated consumption of electricity in Zambia in 1970 was 3,958 million kWh as against 2,895 million kWh in 1966–67. About 80 per cent of the power consumption is accounted for by the mining sector. The demand for electric power by the manufacturing sector, which is as yet not very large in Zambia, has been increasing at the rate of 20 per cent per annum during the Plan period.

123. It has been estimated that electricity consumed in the rural areas has increased from 122 million kWh in 1965 to reach a level of 400 million kWh in 1970.

124. The principal Zambian cities, industrial centres and the majority of the towns along the line-of-rail from Livingstone to the Copperbelt are currently supplied with electric power from the country's inter-connected generating and transmission systems.

125. In other areas of the country, remote from the line-of-rail, a majority of the towns with population of over 5,000 either already have electricity supplies or will soon be supplied with electric power.

E. TRANSPORT AND COMMUNICATIONS

126. Development of transport is of crucial importance to economic development. Transport and communications facilities are relatively well developed on the line-of-rail. In August, 1969, about 95 per cent of the country's urban population, i.e. approximately 25 per cent of the total population, was concentrated in those areas which are served by the line-of-rail. Zambia is connected with the Atlantic and Indian Ocean ports by long railway systems which pass through colonial and white dominated territories. This has caused great inconvenience to Zambia and was accentuated by petrol shortages and rationing following Rhodesia's Unilateral Declaration of Independence and the need to use the unpaved road to Dar-es-Salaam. Within the country, interruptions to and lack of transport by road in the rural areas have also frustrated the development in rural areas.

127. The major transport facility in Zambia comprises roads. The network is relatively well developed but the quality is not satisfactory in that the great majority consists of unimproved earth roads. However, in the period 1964–71 a very significant extension of paved roads was made. In 1964 there were only 1,322 km of these roads, while it is estimated that

there will be around 3,000 km by the end of 1971. During this period a sum of K104 million was spent on paving and betterment of existing roads, as well as on the construction of some unpaved all-weather roads. However, there are many areas which still need better road connections.

128. The development of road transport has been significant. The number of vehicles licensed increased from 65,690 in 1965–66 to 99,609 in 1970. During the same period the number of public transport operators increased from 222 to 797. Whereas the number of taxis in 1965–66 was only 156, in 1970 their number increased to 872.

129. The main projects completed during the FNDP were the Great North Road (822 km), which made a better connection with the Tanzanian port of Dar-es-Salaam, and the Great East Road (430 km), connecting Zambia with the rich potential agricultural area of Eastern Province as well as with neighbouring Malawi.

130. Zambia Railways have had an important role in Zambia's socio-economic development. The Rhodesian UDI affected the work of Zambia Railways in many ways. It necessitated the construction of a K10 million railway workshop in Kabwe which started operation in October, 1971. Due also to the shortage of rolling stock as well as to the inadequate tariff policy of Zambia Railways, the transport bill was higher than anticipated. Another reason for this was that road transport development has taken place also where the railways have obvious advantages, pushing up total transport costs and increasing foreign exchange expenditure. This necessitates a rationalisation between road and railway transport.

131. The construction of a railway line from Choma to Maamba Colliery, which is scheduled to be completed in 1972, will reduce transport costs considerably for coal, which at present is transported by road to Batoka railway station and from there to the main consumer centres in the Copperbelt.

132. The Tazama Pipeline was constructed in 1968 and not only solved the problem of transport of petroleum products into the country, but also substantially contributed to reducing transport costs as well as to saving foreign exchange expenditure on lorries, fuel, spare parts etc.

133. A national air transportation system started with the establishment of Zambia Airways in 1967. It is being built up quickly to serve more of the country's passenger and freight service needs. Zambia Airways runs scheduled services within the country connecting various towns. It also operates services linking countries in and outside Africa. The number of airports increased from 95 in 1964–65 to 138 in 1970. During this period the Lusaka International Airport was constructed with a total capital expenditure of over K13 million.

134. The development of postal and communications services in Zambia has been significant. However, there are still urgent needs for further development, especially in rural areas. There are at present about 200 post offices and postal agencies as well as about 100 telegraph offices. The gross income of the General Post Office increased from K6.6 million in 1966 to K11.4 million in 1970.

135. Telecommunications facilities have been strengthened considerably. A high capacity micro-wave link has been established between Lusaka and the main cities in the Copperbelt. A new international radio station for providing tele-links with the outside world has been established in Lusaka during the FNDP period. Zambia has contributed to the construction of a new earth satellite which is expected to come into operation in 1973. Even though large expansion has taken place in the sphere of telephone services within the country in recent years, this has not been commensurate with the fast-increasing demand, as evidenced by the long waiting list (over 5,000 applications) for fresh telephone connections.

136. It is estimated that the total gross income in transport and communications had reached K80.7 million in 1969; of this amount, road transport accounted for 35.2 per cent, railway transport 33.7 per cent, post and telecommunications 12.8 per cent, air transport 8.7 per cent, Tazama Pipeline 7.9 per cent and others 1.7 per cent.

F. CONSTRUCTION

137. The FNDP estimated that about K500 million worth of construction activity would be accomplished during the four-and-a-half years of the Plan. Though there was a building boom at the beginning, this was slowed down towards the close of the Plan period. The actual achievement in the field of construction is evaluated at K586 million at 1965 prices, and the growth rate was 13.8 per cent.

138. An estimated 45,310 persons were employed in the construction sector in 1965. The FNDP estimated that employment would rise to 75,000 persons by the end of the Plan period. By December, 1970, employment stood at 73,870 persons, a shortfall of 1,130. It is estimated that productivity per worker in this sector has increased by 6 per cent annually during 1964–70.

139. The FNDP estimated that about 9,000 persons would be trained in construction skills during the Plan period. However, only 900 persons received formal training, although additional skill had obviously accrued to the Zambian labour force through working on actual construction jobs. The proportion of foreign skilled labour in construction activity fell from 4.8 per cent in 1965 to 3.9 per cent in 1970.

140. Although the FNDP emphasised the need for import substitution of building materials, very little was achieved in this field during the Plan period. The import content of construction was 30 per cent of total cost at the beginning of the Plan and appears to have changed little in the course of the Plan.

G. DISTRIBUTIVE TRADE

141. The performance of distributive trade in the FNDP is seen from the following data calculated at factor cost and constant 1964 prices:

Table 19—Distributive Trade, 1964–70

	1964	1970	Index 1970/1964	Annual Growth rate (per cent)
Gross output (K million)	244.0	408.0	167	8.9
Value added (K million)	45.8	90.4	198	12.0
Wages and salaries (K million) ..	18.4	44.7	243	13.2
Employment	18,800	26,700	142	6.0
Value added per man (kwacha) ..	2,436	3,385	139	5.5

142. The degree of Zambianisation of trade is brought out by comparing the share of Zambian nationals in the total wage bill.

143. In 1964 Africans claimed only 30.5 per cent of the annual wage bill of all employees in distributive trade. In 1970 this reached 48.5 per cent which, however, was still not satisfactory.

144. The employment target of 44,000 was set unrealistically high and the figure attained is thought reasonable. In view of a comparatively low productivity (gross output per man—at constant prices—grew from K13,000 in 1964 to K13,300 in 1969) only very limited absorbtion of new employees in the trade can be expected in the future.

145. Public corporations fulfilled a most important task of keeping the country supplied with goods in spite of many difficulties, among them those of transportation and storage. The volume of sales of public agricultural trading corporations more than doubled since 1964. Trading establishments controlled by Indeco Trading Ltd contributed mostly towards the development of urban retail trading and the stabilisation of prices in urban areas. It should, however, be kept in mind that Indeco Trading Ltd controls only 6.4 per cent of commercial company capital and 7.5 per cent of trading turnover.

146. A major problem during the FNDP proved to be rural trading, which remained restricted mainly to non-durable goods, while trading in durable consumer goods was concentrated in urban areas. Problems of rural trading were mostly in respect of transportation, storage and finance, related to low density of population and, in consequence, low turnovers of stores and difficult lines of supply. Under the 1968 Economic Reforms, retail trade was restricted to Zambian nationals in prescribed areas.

H. TOURISM

147. The FNDP noted the considerable tourist potential which Zambia possessed and envisaged the creation of hotel accommodation on an adequate scale in both urban centres and in rural areas with some tourist attractions. There are at present some 100,000 square miles of wildlife estate in the form of National Parks and Game Reserves. These centres are at present under planned development.

148. Tourism experienced a big slump in the immediate post-independence period in Zambia. In 1969 only an estimated 6,000 tourists visited the country. In 1970, however, this figure had increased dramatically to a total of 20,000 tourists.

149. The building of two high standard hotels, the Lusaka Intercontinental and the Livingstone Musi-O-Tunya, as well as extensions to the Ridgeway Hotel in Lusaka, have brought about an improvement in hotel accommodation available for tourists visiting these two cities. But accommodation elsewhere in the country, except in the Copperbelt, is still inadequate. The Zambian National Tourist Bureau has been publicising Zambia's tourist attractions for some time now. It has also been arranging regular tourist transport facilities to serve the Game Parks, the Victoria Falls and the Copperbelt.

150. A sample survey of tourists was conducted in 1970 in the largest Zambian hotels, with almost 1,300 beds and 776 rooms, located in the Copperbelt, Lusaka and Livingstone areas. The survey covered nearly 60 per cent of the country's existing hotel accommodation capacity.

151. Visitor nights registered in these hotels in 1970 amounted to 146,100, indicating a bed occupancy rate of 31 per cent. At the same time the room occupancy rate was more encouraging, reaching 51.5 per cent. The big difference in the occupancy rates in terms of beds and in terms of rooms results to a large extent from the fact that more than 80 per cent of hotel accommodation consists of double rooms.

152. There are significant seasonal fluctuations in the accommodation occupancy rate. The number of visitor nights in July exceeded the February mark by 100 per cent. There is obvious scope for further improvement of the existing occupancy rate of hotel accommodation.

153. The survey indicates that the most frequent visitors of the hotels were the expatriate residents of Zambia, while the non-residents' share amounted to approximately 40 per cent. The foreign exchange receipts from these tourists are estimated to be K2.5–K3 million.

I. EDUCATION

154. During the FNDP, the school system expanded to absorb the huge increases in initial enrolments which marked the Emergency and Transitional Development Plans. Moreover, intakes at all levels continued to increase though less rapidly than anticipated. By 1970 a fundamental change of policy in technical and vocational training was being implemented. The University of Zambia, which opened in 1966, held its first graduation ceremony in 1970.

Primary Education

155. Between 1966 and 1970 total enrolments increased by 219,164 or 48.2 per cent in non-fee-paying Government and Aided Schools. This represents 89.4 per cent of the Plan target.

156. Although the 1970 Grade I enrolment (127,359) was almost identical to the estimated seven year old population, the Plan goal of universal enrolment was not achieved. A wide range of ages in every primary Grade makes comparisons difficult, but it is probable that 80 per cent of the seven to ten year age group (the nominal Grade I–IV age group) were in school by 1970. High rates of population growth and population movement, a decline in community contributions to school buildings which increased construction costs, and transport shortages, were the main reasons why the targets were not met.

157. However, the rapid increase in Grade I enrolment between 1964 and 1970 exerted increasing pressure on Grade V places in the latter part of the Plan period. Sufficient new classrooms could not be provided and the continuation rate from Grade IV–V fell overall by 1970. In some rural provinces the rate fell below 60 per cent, compared with the target figure of three-quarters.

158. Despite these shortfalls, an increase of almost 50 per cent in the primary school enrolment over four years is a satisfying achievement. However, the cost, in physical and educational terms, has been high: large-scale over-enrolment and repetition of Grades, triple sessions in some urban upper primary schools, and widespread use of temporary, incomplete and dilapidated buildings. These problems must be faced in the SNDP.

159. In the field of curriculum, too, the FNDP made notable progress while giving rise to some disconcerting problems. The decision to adopt English as the medium of instruction from Grade I resulted in the writing of a new, professionally superior primary course, with a wide repertoire of supporting readers and teaching materials. By 1970 the basic elements of the

course were complete, and had won wide approval. However, it was becoming increasingly evident that the primary school system as a whole had not yet come to grips with the educational needs of the majority of children who left Grade VII without entering secondary school, further training, or employment.

Secondary Education

160. Comparisons between secondary enrolments in 1966 and 1970 are difficult to make, since the formerly fee-paying scheduled secondary schools were progressively integrated into the non-fee-paying system during the Plan period. However, total enrolment in all secondary schools increased by 128 per cent, from 23,000 to 52,472. Considering that secondary enrolment in African secondary schools in 1960 numbered 7,050, it is clear that the system has been lifted on to an entirely different plane of operation.

161. The rate of expansion was slower than expected because of restrictions on the capital budget and a delay in implementing the Zambia World Bank Education Project. After protracted appraisal and negotiations the World Bank agreed in 1969 to lend K12.4 million towards a total project cost of K25.9 million; of this total, K22.9 million will be spent on new secondary schools and extensions to existing schools. By the end of 1970, design work was well advanced.

162. The project preparations entailed important decisions on curriculum and the structure of the secondary school cycle. The revised curriculum included increased provision for Agricultural Science, Home Craft, Commercial subjects and Industrial Arts, thus enabling the schools to undertake a more direct role to provide more effective preparation. At the same time it was decided to provide more effective preparation for junior secondary school leavers by extending the course from two to three years, and a new course for Forms I–III was written. To coincide with this change, the proportion of pupils proceeding to senior secondary classes would drop from two-thirds to half, in order to safeguard against an early surplus of Form V leavers over job openings. By December, 1970, the first phase of this restructuring was complete, and extensions were being built in schools outside the World Bank Project to enable them to follow the new curriculum and class patterns.

Teacher Training—Primary Schools

163. Three new teacher training colleges were included in the FNDP at Manse, Solwezi and Mongu (for men) and it was intended to extend others. However, adequate funds could not be provided for this programme. The new colleges and some of the proposed extensions were not built. Enrolment increased from 1,612 in 1966 to 2,048 in 1970, instead of the target of 3,200.

164. The reduced rate of expansion in the primary system created a smaller demand for additional teachers than had been projected. Instead of gradually phasing out the emergency one-year full-time training course, it was decided to revert to the two-year course at all colleges in 1968. However, the major failure of the college building programme has made it necessary to employ an increasing number of untrained teachers. By 1970 the proportion of untrained teachers had reached the unacceptably high level of 13.3 per cent.

165. The introduction of the new Zambia Primary Course required the active participation of the teachers' colleges in pre-service and in-service training in the new curriculum and teaching materials. By 1970 the Chalimbana Teacher Training College had been converted into a National In-Service College, charged with the professional improvement of the new teaching force, and concentrating initially on introducing serving teachers to the new course.

Secondary Teachers

166. Heavy reliance has had to be placed on recruitment of secondary school teachers from outside Zambia. By 1970 only one in ten secondary teachers was a Zambian and neither the new Teachers College at Kabwe nor the University of Zambia had been able to meet their output target of trained Zambian teachers. Nevertheless, outputs were increasing by the end of the Plan period and both institutions had embarked on expansion programmes in anticipation of the increased demand for teachers and the need to Zambianise the teaching force as quickly as possible.

167. Technical assistance agreements were signed with several countries for the recruitment of teachers on contract, in order to meet the requirements of the system in the most difficult subject areas while diversifying the sources of new recruits.

Technical and Vocational Education

168. In the course of the First Plan, the structure, scope and organisation of technical education and vocational training were transformed on the basis of the recommendations of the Saunders Report (1967). The new Commission for Technical Education and Vocational Training was charged with these responsibilities, legislation was passed and is now in effect. The Commission is now a statutory body headed by a Director, with a Minister of State who is responsible to the Minister of Education.

169. Comparisons between the programme proposed in the First Plan and what has been achieved are not possible, since objectives have changed radically since 1966, and the proposed physical development programme was delayed while new plans were being evolved. However, past neglect in this field is now being rapidly overcome.

170. Technical Education and Vocational Training now have vastly increased priority among national development programmes. By the end of the Plan period an integrated programme of education and training at all levels below the professional had been drawn up, and construction of new or improved facilities had begun.

University Education

171. The University of Zambia opened with 312 students in 1966 and expanded rapidly to a full-time enrolment of 1,184 in 1970, with an additional 285 part-time students, mainly in correspondence studies.

172. The University began with three academic schools: Humanities and Social Sciences, Natural Sciences, and Education. To these have been added Law, Engineering, Medicine, and Agricultural Sciences, while in-service, certificate and diploma courses, as well as several higher degree programmes, were developed during the Plan period. The Department of Extra-Mural Studies made a vigorous start in several provinces, and the University also used the radio and the press in extending informed comment and analysis of public and academic issues to a wide audience outside the campus.

173. Because of restrictions on capital development and a shortfall in the number of eligible candidates for entry to degree studies, the University's expansion fell slightly more than a year behind schedule. However, by the end of the Plan period the University had produced more local graduates than there were in the country in 1963.

174. Bursaries were also awarded to students for degree studies outside Zambia in fields for which facilities at the University of Zambia were not available.

J. HEALTH

175. Good investment was made in the field of health during the FNDP. Table 20 gives the financial background of the expansion of health facilities since 1966.

Table 20—Government Expenditure on Health
(K million)

	Recurrent Expenditure	Capital Expenditure	Total Expenditure
1966 (July–December)	4.7	0.8	5.5
1967	12.2	3.3	15.5
1968	14.8	4.8	19.6
1969	16.8	6.5	23.3
1970	20.0	7.2	27.2
1971 (Budget estimates)	20.5	11.7	32.2
Total	89.0	34.3	123.3

176. Government spent about 5 to 6 per cent of its annual expenditure on health services. This worked out to an expenditure of about K7 *per capita* in 1971.

177. There has been considerable expansion in the number of hospitals and health centres during the Plan as Table 21 illustrates.

Table 21—Hospitals and Health Centres: 1966–71

	1966	1971	% Increase
Hospitals	51	75	49
Rural Health Centres/Clinics	343	553	61
Total	394	628	59

178. At the end of the FNDP, Zambia had over 425 practising doctors, a ratio of 1 doctor per 9,500 of population. In addition there were over 800 medical assistants, 1,800 nurses in different categories, 1,000 dressers and more than 200 other technical staff serving in the health sector with Government, Mission and industrial services. There were also thirty dentists in Zambia—twenty in Government and ten in private practice. Seven dental students were undergoing training abroad during FNDP.

179. There were nearly 12,000 hospital beds available in the country, plus a further 2,200 beds provided by Health Centres and Clinics, making a total of some 14,200 beds in early 1971. Ten air strip clinics in remote areas of the country were established for the Flying Doctor Service during the FNDP providing another ninety beds.

180. A start was made in providing safe rural water supplies, which are essential to the maintenance of health and the prevention of disease. By December, 1969, more than 800 wells had been sunk, 360 boreholes drilled, 50 piped water supplies provided, and 60 dams and weirs had been constructed or improved; more than 2,600 kilometres of canals had also been dug or improved.

181. Regarding training of medical personnel, the University of Zambia has enrolled fifty-six students in the medical faculty and the first batch of Zambia-trained doctors will be available in 1973. Sixty-six Registered Nurses qualified up to the end of 1970. In 1969 and 1970 a total of 310 Enrolled Nurses qualified for their profession. The current programme of nurses' training at the University Teaching Hospital (capacity 300 nursing trainees) will contribute to the attainment of an adequate supply of Zambia-trained nurses.

182. As regards the training of other medical personnel, the actual progress has been slower. However, several training institutions for producing health assistants, hospital technicians and others have been or are being established in the country. These institutions will be turning out trained personnel during the SNDP period in reasonable numbers.

K. HOUSING

183. Up to now Government strategy has been to provide more housing in the towns, particularly the main urban centres like Lusaka, Kitwe, Ndola and others. This was essential because of the high rate of urban population increase. Since 1963 the urban population of *Zambia has increased from 747,000 to 1,188,000 in 1969, a 60 per cent increase* over the six-year period, equivalent to an overall urban population growth rate of approximately 8 per cent per year. This is a very high growth rate for urban population. The population of Lusaka is currently estimated to be growing at a rate of 12 per cent a year and that of Zambia's smaller towns at rates ranging between 6 and 8 per cent per year. Should this phenomenon continue the urban population would double every nine years.

184. Keeping this in view, Government housing programmes aimed at reducing the acute problems of overcrowding and uncontrolled settlements in urban areas, resulting from the migration from rural areas into the main towns and also from the natural growth of population.

185. Since Independence, Government has spent about K100 million on housing, of which nearly two-thirds was spent on civil service housing. A total of 20,000 low-cost and 12,000 civil service houses were built between 1964 and 1968 and about 5,000 site and service plots were prepared. This makes a total housing accomplishment since Independence of 37,000 units.

186. Two housing programmes were established in the FNDP, one dealing with civil service housing and the other with low-cost housing for the general population. A sum of K33.6 million was allocated for the construction of 19,000 houses and 8,000 serviced plots in site and service self-help housing programme. A sum of K2.6 million was set aside for loans to persons building their own houses under the site and service scheme.

187. During the FNDP period, up to June, 1970, the Zambia Housing Board advanced loans totalling about K28 million. Government provided capital grants amounting to K1.1 million up to 31st December, 1969, for the developent of site and service schemes.

188. Approval was given to local authority schemes involving 15,067 houses and 12,070 site and service plots during the FNDP period; in addition 2,000 site and service plots designed by a firm of consultants were completed with funds directly supplied by Government.

189. As far as capital expenditure was concerned, it was only in the first year of the FNDP that loan advances kept pace with the planned rate of expenditure, as shown in Table 22.

Table 22—Loans by Zambia Housing Board
(K million)

Year	Planned	Actual
1966–67	8.2	8.3
1967–68	8.2	6.0
1968–69	8.6	7.0
1969–70	8.6	6.7
Total	33.6	28.0

190. The reduction in successive budget allocations rather than a lack of capacity caused the decline in the actual rate of expenditure. In view of the limited funds available from the budget, the building programme did not keep up with the demand for houses.

L. ECONOMIC REFORMS

191. The picture of the achievements of Zambian economic and social development would be incomplete without referring to the important institutional changes brought about through a series of economic reforms since 1968.

192. The Economic Reforms were first announced at Mulungushi Rock in April, 1968, signifying the beginning of an era of revolutionary progress for the Zambian Nation.

193. Before the Reforms most of the business enterprises were owned by foreign companies and much of the profits made in the country used to be exported abroad. The Reforms aimed at Government participation in industry and the involvement of Zambians in the economic development of the country. The chief objective was therefore to give effective control and the management of the economy to Zambians.

194. The Economic Reforms were the first logical step to be taken in the implementation of the Philosophy of Humanism geared towards increasing Zambian participation in the economy of the country.

195. In order to carry out the industrial aspects of the Economic Reforms, INDECO had to be transformed. INDECO, which had earlier been a small-scale development organisation, was now charged with expanding and diversifying the country's interest in commerce and industry. It took a controlling interest in a couple of dozen industries and participated in others. The subsidiary and associated industries included textiles, fertilisers, explosives, beer, building materials, cement, sugar, tyres, wire and cable, bags, clay pipes, etc., as well as rural industries such as canning, cotton ginnery, etc.

196. In order to speed up Zambian participation in business further measures were included in the Economic Reforms. Limits were set on credit unless the borrowing company was Zambian, or at least 51 per cent owned by the State. Financial institutions were urged to increase credit facilities to Zambians. Expatriate businesses were limited to prescribed areas confined to the ten major urban centres.

197. By 1969 INDECO had so many subsidiaries and associates that it was necessary for these companies in which the state participated to be organised in groups according to their nature and INDECO-owned holding companies were then established to supervise each group.

198. In 1969 at Matero, new reforms were announced which covered the mining industry. Government acquired 51 per cent shares in the copper mines. Subsequent reforms included proposals for land reform and the re-use of derelict farms.

199. In 1970 these economic reforms were extended to cover all trading activities, both wholesale and retail. It was stipulated that from 1st January, 1972, onward, only genuine Zambian organisations and individuals could engage in this activity.

200. In view of developments in the meantime, His Excellency the President raised the subject of state enterprises once again in January, 1971. Companies in which the State is participating should serve the interests of the Zambian economy. It is not the purpose of the Economic Reforms to create jobs for a select few. It is not enough to have Zambian directors. They must have a clear understanding of the implications of their policies and day-to-day decisions at this level which can make all the difference as to whether the country is in effective control of its economy or not.

THE SECOND NATIONAL DEVELOPMENT PLAN 1972-1976

STRATEGY AND MAIN OBJECTIVES OF THE SNDP

The implementation of the First National Development Plan (FNDP) has strengthened the Zambian economy and started to correct certain grave imbalances inherited from colonial days and further accentuated by the Rhodesian UDI in 1965. The Second National Development Plan 1972–76 (SNDP) seeks to continue the building up of the country's economic and social infra-structure while at the same time laying the foundations for a more balanced economic development of the country.

2. Two factors which particularly affect the scope and objectives of the Plan have to be mentioned here.

3. The first factor concerns the expectations regarding the copper industry, which vitally affects the economy of Zambia. Here the Plan has taken a cautious approach regarding future copper prices in relation to import prices. The Plan assumes an average copper price of K740 per metric ton f.o.b., and an increase of prices of imported goods and services of between 2 and 3 per cent annually. This would mean in effect that Government consumption, investment and personal consumption in the SNDP can only increase in line with the expansion of production effort of the national economy—unlike in the FNDP when rising copper prices brought in a substantial windfall to the economy.

4. The second factor derives from projections of population growth and its various categories such as school-age and working-age population. The projected high rate of population growth of 2.9 per cent per annum for the Plan period accentuates the dimensions of the employment problem as well as the need for accelerated social services development.

5. It is well known that a decrease in the number of under- and unemployed in the rural sector is basically determined by an efficient economic development process and cannot be solved in a short period of time. However, the speed with which it will be possible to solve this problem depends on the ability of the society to organise an efficient expansion of both industrial and agricultural growth potential of the country.

6. Zambia is fortunate in that she is in a position, due to her natural wealth, to develop simultaneously her industry and agriculture. Also, a simultaneous development of industry and agriculture is a basic prerequisite for achieving optimal results in employment and a rise in the level of living of the population.

7. Starting from the stage of development the Zambian economy has reached and in view of the longer-term needs of economic and social development, the following are the main points of strategy of development in the course of the SNDP period:

(a) The expansion of agricultural production as a top priority with the aim to improve income and nutritional standards of population, cut substantially imports of food, expand economically justified exports and provide industrial inputs.

(b) The increase of agricultural output and efficiency of production in the traditional farming sector as the most direct way of contributing to the solution of employment and income distributions problems between urban and rural areas will be particularly emphasised. The transformation of traditional subsistence farming into market-orientated commercialised farming is a long-term process and the SNDP will take decisive steps towards this end by a programme of intensive development of rural areas of high natural and human potentials for agricultural development.

(c) Expansion and diversification of industry and mining to enable substantial import substitution through the conversion of local raw materials and particularly those that can be supplied by domestic agriculture and mining. The copper mining industry will be fostered further to develop along healthy lines so that it will continue to help the Government by providing substantial yearly revenues. Expansion of further processing of copper on an enlarged scale will play an important role in industrial diversification and stabilisation of Government revenues. The expansion of the manufacturing industry should contribute to the improvement of living conditions of the rural population by providing employment for the labour leaving rural areas, and by increasing demand for agricultural products in terms of both raw materials for the processing industry and food for the growing non-agricultural population.

(d) Tourist potential of Zambia will start being developed more intensively to enable this economic sector to play its due role in the diversification of the national economy. Development of tourism will directly and indirectly benefit several rural areas.

(e) In economic infra-structure, the construction of transport routes will first have to master the rather ponderous spill-over of the FNDP, including the construction of the Tanzania–Zambia railway. Further construction of roads in the SNDP will be mainly concerned with the activation of the already built-up road network, by construction of branch roads with a view to opening marketing facilities to agricultural potential areas. In energy, self-sufficiency and elimination of electricity imports will be achieved by expansion of production capacities to ensure that self-sufficiency continues after 1976.

(f) In social infra-structure, the education programme has been designed to respond effectively to the demand of the people for both primary and continuing education, as well as giving special emphasis to secondary, vocational, technical and professional education in the light of our manpower requirements. Health programmes and services will further expand, with priority given to the improvement and extension of services. In housing, high priority will be given to the construction of low-cost housing units to reduce the present backlog. Community development, through involving the people in their own development and self-help schemes, will strive, in co-ordination with other Government agencies, at improving the level of living of the general population in rural and urban areas. Services with a youth component and special programmes for young people will receive high priority.

(g) The SNDP will initiate comprehensive regional development, based on the principle of participatory democracy, aimed at the reduction of disparities which exist between the various regions and provinces in the country. This aim will be achieved by chanelling more investments, in money, material and skills, to rural areas with growth potentials which have not so far benefited appreciably from past development programmes. The concept of Intensive Development Zones will particularly help the process of rural regeneration.

(h) A new administrative and economic infra-structure will be employed to give a fillip to rural development. An Act of Parliament has been passed requiring the establishment of Village Productivity and Ward Development Committees throughout the Republic. The purpose of these Committees is to improve organisation for economic development at the people's level. Improved organisation will lead to the creation of decision-making centres in the rural areas, and therefore provide further administrative decentralisation. The existence of a large number of decision-making centres will increase and strengthen economic, social and political opportunities and lead to an all-round improvement in the living conditions of the rural population.

(i) The Plan will initiate administrative procedures and policies which are essential for effective and timely implementation of Plan projects and programmes. To this end, annual programmes to implement the Plan and its evaluation will be used as an important instrument of continuous planning.

8. The objectives and targets aimed at in the SNDP are elaborated in detail in the subsequent parts of this document. The following are the highlights of the development visualised for Zambia over the five-year period of the SNDP.

9. The SNDP envisages an annual growth rate of 6.8 per cent per annum of Gross Domestic Product during the five-year period, 1972–76. This will enable *per capita* GDP in constant 1969 market prices to increase from an estimated K246 in 1971 to K300 in 1976. This growth rate is only a slight improvement on the growth rate achieved by the economy in the First Plan after excluding the favourable growth and income impact of the fortuitous price boom for copper during the FNDP.

10. The GDP is expected to increase, in terms of 1969 market prices, from K1,080.7 million in 1971 to K1,505 million in 1976. The highest growth rate is projected in the manufacturing sector (15 per cent per annum). Growth in the commercial agricultural sector will be at about 6 per cent per annum. Value added in the mining sector, still the most dominating sector in the economy, will grow at a rate of 6.1 per cent per annum during the SNDP.

11. The total budgetary resources to be mobilised by the Central Government during the Plan period works out at K2,609 million, consisting of K1,234 million for the SNDP projects/programmes on capital and recurrent accounts and K1,375 million on Government recurrent account for meeting the committed level of recurrent expenditure during the fiscal years, 1972–76. In addition, an estimated investment of K242 million will be self financed by the public sector enterprises.

12. The total budgetary resources of the Central Government together with the foreign loans estimated to be available for financing the Plan and committed recurrent expenditures during 1972–76 have been assessed at K2,456 million. This estimate leaves an uncovered gap of K153 million. Suitable budgetary and non-budgetary measures will be evolved to bridge this gap.

13. The population of Zambia is expected to grow at a fast rate of 2.9 per cent per annum which would rank Zambia as one of the very high population growth rate countries in the world. The unprecedented urbanisation rate that was witnessed during 1963–69 is likely to decline in the coming years. Even then the estimated proportion of urban to total population would increase from 27.5 per cent in 1969 to 36.4 per cent in 1976. The rate of population increase and urbanisation would bring into the labour force 67,000 persons every year of whom about 37,000 persons will be in the urban areas. Not all of them will be seeking jobs in the labour market. A good proportion of them, especially in the rural areas, would be absorbed as self-employed and unpaid family workers. Looked at this way, the problem of employment creation looks slightly less alarming. According to calculations, during the SNDP period, a total of 100,000 wage jobs will be created, which is about 20,000 new jobs a year. In addition, a good number of wage paid opportunities would arise in the various small shops, enterprises and services resulting from the SNDP projects and the general expansion of the economy.

14. One of the main policy objectives in agriculture is to work towards self-sufficiency in basic foodstuffs, particularly maize and high-value foods. Zambia will produce an estimated 7 million bags of maize (630,000 metric tons). Production of protein and protective foods will be given added emphasis. Production of oil seeds and tobacco for exports will be encouraged. The idea of Intensive Development Zones will be implemented in the SNDP. The IDZs are essentially a programme of assisting peasant farmers in selected areas to actively adopt modern agricultural practices using various inputs and production aids provided by Government on a 'package' basis. The output of sugar cane and cotton will increase substantially during the SNDP period. Fish production will go up from 34,000 tons in 1970 to 55,000 tons in 1976.

15. Under mining, the physical volume of copper production will be stepped up by 39.5 per cent over the 1971 production level of about 645,300 metric tons. Considerable expansion in the output of other minerals is also projected.

16. In the field of manufacturing industry, the SNDP envisages a substantial increase in both total output and employment. Gross output of manufacturing industry in terms of value will increase from K264 million in 1971 to K509 million in 1976. Value added in manufacturing will increase from K100 million in 1971 to K199 million in 1976. Employment in industry will increase from 38,200 in 1971 to 62,500 in 1976. Import-substituting industries will receive priority attention.

17. In the field of power generation the Second Plan will register a big increase. The current installed capacity of about 620 MW will increase to 1,634 MW by 1976. This will ensure sufficient power for new industries to be set up in the SNDP as also for an energetic programme of rural electrification. By the end of the SNDP Zambia will become a net exporter of electric power instead of being a net importer.

18. A modest programme of annual expenditure on road construction and maintenance is envisaged for the SNDP. Over the five-year period 1972–76, a total of K63 million will be spent on roads. The Plan envisages a capital expenditure of K133 million on the construction of the Tanzam Railway which will be completed well ahead of the end of the SNDP period. Zambia Railways and Zambia Airways will also undergo a process of expansion and modernisation during the next five years. Post and telecommunications will absorb a capital investment of K49 million over the five-year period, indicating a great improvement in their respective facilities.

19. A considerable increase in the number of tourists visiting Zambia is expected during the Plan period. Their number is expected to increase from 20,000 in 1970 to 50,000 in 1976. The number of hotel beds will increase from 2,200 in 1970 to 4,000 by 1976. Development of Zambia's tourist spots, especially her National Parks and Game Reserves, will get priority attention during the SNDP period.

20. An ambitious programme of educational development is envisaged during the SNDP. Primary enrolment will go up from 726,700 in 1971 to 880,300 in 1976. Secondary enrolment will increase from 54,370 in 1971 to 74,500 in 1976. The University of Zambia will absorb a capital expenditure of K13.8 million over the Plan period. Total enrolment which was 1,565 in

1971 at the University will go up to 3,012 in 1976. Total training facilities on various technical courses will be expanded to increase enrolments from 2,911 in 1971 to 9,310 in 1976. For this a capital outlay of K29.6 million has been provided.

21. Under health, the Plan period will see provision of more than 1,000 additional hospital beds and over 50 new Health Centres and Clinics. The Plan will aim at making medical facilities available in greater abundance and spreading them to more and more remote areas of the country.

22. The improvement of living conditions in rural areas will be helped by two massive campaigns. One concerns improved house building with burnt bricks, and will be implemented by the villagers themselves. The other aims to provide 3,000 borehole wells throughout the country, which will provide a focal point for village re-grouping. The programme will be executed with the aid of the appropriate technical department/agencies, and a sum of K6 million has been allocated for this purpose.

23. In the SNDP a minimum of 70,000 housing units, mostly of low-cost category, will be constructed; a total of K100 million will come from Government sources for financing both housing construction and communal services. Additional K100 million will be forthcoming for housing construction from non-government sources. Home ownership by individuals will be encouraged.

24. A well integrated community development and welfare programme will be initiated in the SNDP. The community development programme will seek to ensure the involvement of all people in efforts to solve local problems of hunger, poverty, ignorance and disease through organised self-help. It will involve people in national development schemes in partnership with Government's technical departments and utilising aid from Local Authorities. Youth programmes will aim at the active participation of youth in nation-building activities, particularly in the rural areas.

25. In order to achieve nationally better balanced economic and social development, the criteria for economic and social service investment in provinces are spelled out with a view to assisting rural areas in the establishment of the centres of continuous income and employment generation. A sum of K80.6 million is allocated only for locally designated capital projects. The allocation of these funds among provinces reflects the basic policy of the SNDP aimed at faster development of outlying rural areas.

26. Under rural development at the grass roots it is intended to use the Village Productivity and Ward Development Committees as the centres of initiative, planning and implementation of the local needs. The funds allocated to provincial programmes will, therefore, also supplement the local efforts which will be generated as a result of the creation of these important committees. Indeed, more than any other single factor in the SNDP, development at the grass roots through these committees and the Intensive Development Zones will mark one of the most fundamental differences between this Plan and the FNDP.

PART ONE
NATIONAL PROGRAMMES

CHAPTER I—MACRO PROJECTIONS AND POLICIES

A. GROSS DOMESTIC PRODUCT: ITS ORIGIN AND USES

In projecting Gross Domestic Product and its components during the Second National Development Plan (SNDP) period, a number of assumptions have been made:

(*a*) Output in agriculture, mining, manufacturing and electricity and water is assumed to be supply-determined and is therefore exogenously determined. So are wages and investment in the same sectors.

(*b*) Regarding copper:

(i) copper price has been assumed at a level of K800 per metric ton (c.i.f.) K740 per metric ton (f.o.b.)*;

(ii) physical output of copper has been assumed as follows:

1971—645,300 metric tons
1976—900,000 metric tons

(*c*) Government wages and salaries are assumed to grow at 4 per cent per annum.

(*d*) Government investment would grow at 4 per cent per annum and is closely related to capital expenditure.

(*e*) Private monetary consumption is estimated on the basis of the relationship between total monetary consumption expenditure and the total wage bill.

(*f*) Government consumption, which is largely governed by Government recurrent expenditure is estimated by the sum of the Government wage bill and 55 per cent of it for goods and services.

(*g*) Population has been assumed to grow at an annual rate of 2.9 per cent.

2. With these assumptions medium-term projections of GDP and its components are made using a simple aggregate model both by its industrial origin and by expenditure. Table I–1 shows these projections in detail giving GDP at factor cost and market prices both with and without corrections for the terms of trade effect.

3. In the notes to Table I–1, an explanation of the method of calculating the terms of trade effect is given. The advantage of allowing for this effect is that a real picture can be obtained of the productive effort of the whole economy which even after allowing for the terms of trade effect, grows at 6.8 per cent per year. In fact, what is clearly borne out by the data on GDP, is the decline in the percentage share of mining in GDP—an indicator of further diversification of the economy started in the FNDP.

4. Taking 1971 as base year, GDP at constant factor cost is planned to grow at 7.3 per cent per annum and at 6.8 per cent per annum at constant market prices. The impact of mining on Zambia's economy cannot be overemphasised. The effects of the 1970 Mufulira disaster are reflected in a fall in value added of mining in 1971. Thus, value added in 1970 is estimated to have fallen by 3 per cent below that of 1969. Further, value added in real terms in mining in 1976 is almost at the same level as in 1969 despite the fact that projected physical output in 1976 is considerably higher than in 1969. This is due to an overall increase in costs of production partly caused by the Mufulira Mine tragedy. It is possible that construction and other services will gain through wages, which are entailed by the new methods of mining introduced at Mufulira Mine. Sectoral growth rates are realistic, given the assumptions stated above.

5. The overall effect of the growth rate of 6.8 per cent per annum of GDP at market prices will be to raise *per capita* income from K246 in 1971 to about K300 in 1976, in [illegible] market prices. The estimated *per capita* GDP in 1976 is approximately the same as in 1969, which was an extremely favourable year for the country when it accumulated substantial external reserves. But in 1971 there occurred a substantial fall in *per capita* GDP, largely attributable to the Mufulira disaster and the slump in copper prices. Over the period of the SNDP, *per capita* GDP will show a steady increase. Private *per capita* consumption in particular will register a substantial increase—by about 25 per cent—during the period 1972–76. This means that the SNDP will bring about further steady improvements in the living conditions of the Zambian population.

6. Table I–2 shows expenditure on GDP and its percentage distribution among uses. It displays two distinct features. Firstly, private consumption in real terms, grows at 5.3 per cent per annum over 1971 as base year as against the annual growth rate of the total wage bill of 6 per cent per annum in real terms and 6.8 per cent of value added at constant market prices.

* The price of K800 per metric ton is the value realizable on the London Metal Exchange. This is the c.i.f. (cost, insurance, freight) price. Actual price realized by Zambia will be K40 per ton less, deducted on account of freight and insurance. This brings down the price to K760 per metric ton, free on board (f.o.b.) at the nearest port. This price of K740 is used throughout the Plan for all projections.

Secondly, the growth rate of investment of 6.4 per cent per annum is slightly lower than the growth rate of GDP which reflects the impact of a high level of investment in the mining sector in 1971 caused particularly by the Mufulira Mine disaster.

Table I-1—Industrial Origin of Gross Domestic Product
(K million, 1969 prices)

Sector	1971	1976	Index 1976/1971	Growth Rate per annum
Agriculture[1]:				
(a) subsistence	116.0	150.0	129.3	5.3
(b) commercial	45.0	60.0	133.3	5.9
	321.3	432.9	134.7	6.1
Mining[2]	99.8	198.5	198.9	14.7
Manufacturing	90.4	134.0	148.2	8.1
Construction	17.2	28.0	162.8	10.2
Electricity and Water	143.7	220.3	153.3	8.9
Distribution and Tourism	53.8	70.1	130.1	5.5
Finance, Insurance and Real Estate	56.8	80.6	141.9	7.3
Transport and Communications	12.9	16.2	125.6	4.7
Domestic Services	85.6	104.1	121.6	4.0
Government Services	19.9	30.4	153.8	8.8
Other Services[3]				
Gross Domestic Product at factor cost (constant price)	1,062.4	1,525.0	143.5	7.5
Net Indirect Taxes	24.8	30.0	—	—
Customs Duties	32.5	45.0	—	—
GDP at constant market prices	1,119.7	1,600.0	142.9	7.4
Terms of trade effect[4]	−39.0	−95.0	—	—
GDP at constant market prices, corrected for terms of trade effect	1,080.7	1,505.0	139.3	6.8

NOTES:

[1] Development Division Estimates.

[2] The average price for copper of K740 per metric ton has been used for the whole Plan period. Further, mineral tax is not considered an indirect tax.

[3] Other services includes business services, recreation and non-business services.

[4] The full term... trade effect which is calculated with respect to 1969 as base year, amounts in 1970 to K36.2 million, in 1971 to K31.9 million and in 1976 to K112.0 million, whereas the terms of trade effect for 1969 as base year would be zero. This procedure would imply that value added in mining would be expressed in 1969 constant prices. However, as 1969 copper prices are considered exceptionally high, the procedure adopted in calculating the terms of trade effect is based on calculating value added in the mining sector using K740 per metric ton (f.o.b.) as an average price for copper. This method provides for a more realistic picture of the Zambian economy and in particular the contribution of the mining sector to total GDP. Consequently this procedure implies that the terms of trade effect appears even in the base year amounting to the impact of the price difference between the actual average price of copper in 1969 of K1,025 per metric ton and the assumed plan price. Accordingly, the terms of trade effect also changes in subsequent years. Thus, the terms of trade effect as calculated here could be defined as the one which is worked out on the basis of the planned copper price during the SNDP period.

Table I-2—Expenditure on Gross Domestic Product
(K million, 1969 prices)

	1971	1976	Index 1976/1971	Growth Rate per annum
Private Consumption	473.2	630.0	133.1	5.9
Government Consumption	140.2	174.4	122.6	4.2
Investment	330.0	450.0	136.4	6.4
Net Exports	30.0	62.0	206.7	15.6
Changes in Stocks	−10.7	38.6	—	—
Monetary GDP at constant market prices	964.7	1,355.0	—	—
Subsistence Output	116.0	150.0	—	—
Total GDP at constant market prices	1,080.7	1,505.0	139.3	6.8
As percentage of GDP:				
Private Consumption[1]	54.5	51.8	—	—
Government Consumption	13.2	11.6	—	—
Investment	30.5	29.9	—	—
Net Exports	2.8	4.1	—	—
Changes in Stocks	−1.0	2.6	—	—
	100.0	100.0		

[1] Including subsistence output.

7. The distribution of GDP among its uses indicates that in 1971, investment would reach its peak share of 30.5 per cent in GDP in real terms. This again shows the increased levels of investment demand in mining. In 1976, the percentage share of investment in GDP falls to 29.9 per cent. This means that in 1976, the level of investment will still remain very high due to increased utilisation of foreign loans for financing development. This will contrast with the situation that obtained in the period of the FNDP when Zambia, due to high copper prices, was able not only to finance her large investment programme from internal sources, but also to build up high levels of foreign exchange reserves. Private consumption in real terms accounts for 54.5 per cent of GDP in 1971 and slightly declines to 51.8 per cent in 1976. The share of net exports rises during the period.

8. Table I–3 gives a preliminary indication of the growth rates of wages by sectors.

Table I–3—Wages and Salaries
(K million, 1969 prices)

	1971	1976	Index 1976/1971	Growth Rate per annum
Agriculture	13.5	18.0	133.3	5.9
Mining	101.1	110.2	109.0	1.8
Manufacturing	46.9	86.3	183.8	12.9
Construction	48.5	78.1	161.0	10.0
Distribution and Tourism	49.3	68.0	137.9	6.7
Transport and Communications	36.0	47.7	132.5	5.8
Government and Other Services	134.4	171.0	127.2	4.9
Total	429.7	579.2	134.8	6.1

Structural Changes of the Economy 1971–76

9. Table I–4 below gives an indication of expected structural changes with regard to the diversification of the economy over the SNDP period.

Table I–4—Percentage Sectoral Distribution of GDP at Factor Cost
(1969 prices)

	1971	1976
Agriculture		
(i) subsistence	10.9	9.0
(ii) commercial	4.2	3.9
Mining	30.2	28.4
Manufacturing	9.4	13.0
Construction	8.5	8.8
Electricity and Water	1.6	1.8
Distribution and Tourism	13.5	14.4
Finance, Insurance and Real Estate	5.1	4.6
Transport and Communications	5.4	5.3
Domestic Services	1.2	1.1
Government Services	8.1	6.8
Other Services	1.9	2.0
Total GDP at factor cost (constant prices)	100.0	100.0

10. Table I–4 not only shows the declining importance of the share of mining in GDP in real terms but also the real productive effort of the economy after the terms of trade effects are eliminated by keeping copper price constant at the level of K740 per metric ton. Thus, whereas in 1971 mining accounts for about 30 per cent of GDP in real terms, it would account for 28 per cent in 1976. Manufacturing gradually assumes importance. In 1971 it accounts for only 9 per cent but for 13 per cent in 1976. The services sector slightly increases its share from 27 per cent in 1971 to about 28 per cent in 1976.

11. On the other hand, agriculture maintains approximately the same percentage share over the Plan period. Government's share in GDP is expected to fall from 8 per cent in 1971 to 6.8 per cent in 1976. The construction sector retains almost the same percentage share during the Plan period.

12. The most notable feature of the Table is the general trend of a decline in the percentage share of mining in GDP between 1971 and 1976. This, together with the expected national investment level in 1976, should set the stage for further diversification of national production in subsequent years.

B. INVESTMENT AND FINANCIAL SOURCES OF THE PLAN

13. The size of the SNDP, 1972–76, has to be fixed keeping in view two constraints: (i) the resources constraint, and (ii) the constraint of adequately trained manpower. There is no doubt that existence of valuable natural resource of copper makes economic development of Zambia comparatively less dependent on aid from abroad than the development of other countries similarly situated. But copper revenues are subject to wide fluctuations partly owing to fluctuations in internal production but mainly due to fluctuations in the world price of copper. This factor calls for a cautious approach in projecting the investment programme of the SNDP and the resources available for financing it.

14. The manpower constraint is, however, more severe than the resources constraint and is, in fact, the principal limiting factor on the rate of growth of the country's economy. There is a shortage of adequately trained manpower in all sectors of the economy. In agriculture it is more keenly felt, and is hampering the growth of agricultural production. The same is true of the construction sector which claims the bulk of the investment both in the public and private sectors. Most of the construction projects are executed by foreign-based construction companies involving large payments abroad in the shape of profits and wages and salaries.

15. A cautious approach towards the size of the SNDP is also called for by another important consideration. The existence of a low supply base of domestic production of both agricultural and manufactured commodities leads to the emergence of inflationary trends in the economy as a result of even a moderate increase in investment spending. The pressure for imports is increased and a substantial part of foreign exchange earnings gets spent on the imports of consumer goods of the luxury or semi-luxury types.

16. The foregoing analysis of the Zambian economy emphasises the need for reorientation of the investment programme of the SNDP. Top priority will be given to projects/schemes which would pay off, save on imports, provide regular employment and generate enough internal resources so that the development process becomes self-sustaining and cumulative. This 'eligibility test' should apply to all projects in agriculture, mining and manufacturing as well as to programmes for development of economic and social overheads. Under this latter category of programmes under Social Services, high priority must be given to utilisation of institutional capacities already created and to schemes/programmes aimed at training the manpower in the skills needed in the various sectors of the economy. On the other hand, unproductive investment on buildings and on projects of unproven benefits has to be kept to the barest minimum. Once the investment packet of the SNDP has been decided upon phasing of projects has to be carefully worked out. In the early years of the SNDP, priority will have to be given to completion of the continuing projects and investigations of the new projects. On the 'recurrent account', complementary outlays will have to be provided for recruitment of additional staff required to speed up the training programmes and to strengthen the development administration to enable it to cope with the task of implementing development programmes of the SNDP.

17. A study of the relationship of GDP and Central Government expenditure over the past few years indicates that Government expenditure has been increasing sharply. It rose from 22 per cent in 1964 to 30 per cent in 1965, 42 per cent in 1968 and may be over 45 per cent in 1971. Although this increase in Government expenditure gave an initial boost to the economy and helped the Government to strengthen the administrative machinery, it did not always produce the optimum use of Government's resources. As compared to countries of the East African Economic Community, the level of Government expenditure is very high. In Kenya, Government expenditure as a percentage of GDP was 26.6 per cent in 1966, in Tanzania it was 29.6 per cent and in Uganda 22.4 per cent, while in Zambia it was more than 40 per cent in 1970. It is essential that, in future, unplanned increase in Government's expenditure is kept in check so that larger resources are released for planned economic development.

Size of the Plan

18. The SNDP, 1972–76, envisages a total outlay of K2,161 million divided between the Public and the Private Sectors as under:

	K million
Public Sector	1,476
Private Sector	685
	2,161

Of the Public Sector outlay of K1,476 million, an outlay of K205 million represents recurrent account expansion expenditure on developmental institutions and activities and K1,271 million represents investment outlay on the various projects and programmes in the Public Sector. The private sector outlay of K685 million represents the estimated investment likely to be undertaken in the private sector of the economy. The private sector has been defined as inclusive of those parastatal organisations in which the Government holds 51 per cent or more of the share capital. Leaving out the recurrent account plan outlay of K205 million, the total investment outlay of K1,956 million is divided between the Public and Private Sectors as follows:

Table I-5—Total Investment Outlay, 1972–76, by Economic Sectors and Sources of Finance
(K million)

Sectors	Domestic Resources	External Finance	Public Sector Enterprises	Total Public Sector (2+3+4)	Private Sector	Total (5+6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Rural Sector[1] [2]	89.5	21.0	12.0	122.5	30.0	152.5
2. Mining[1]	28.7	12.3	—	41.0	361.0[3]	402.0
3. Industry	29.0	—	78.0	107.0	146.0	253.0
4. Trade[1]	45.0	—	—	45.0	10.0	55.0
5. Power	72.4	105.0[3]	21.4	198.8	—	198.8
6. Transport and Communications[4]	78.5	160.3	130.5	369.3	5.4	374.7
7. Tourism	15.0	—	—	15.0	10.0	25.0
8. Broadcasting and Information ..	4.0	4.0	—	8.0	—	8.0
9. Housing and Real Estate ..	116.0	30.0	—	146.0	54.0	200.0
10. Construction	—	—	—	—	63.0	63.0
11. Education	98.7	15.8	—	114.5	3.0	117.5
12. Health	37.0	—	—	37.0	3.0	40.0
13. Other Social Services including Government Administration[5] ..	66.9	—	—	66.9	—	66.9
Total	680.7	348.4	241.9	1,271.0	685.4	1,956.4

[1] Parastatals excluded.
[2] Excluding replacements met from operating costs.
[3] Includes external finance of K53.3 million for Kariba North Bank Power Project.
[4] Outlays for Housing excluded.

19. As stated earlier, the Public Sector outlay of K1,476 million is divided between the current outlay and the investment outlay. The current outlay represents the new recurrent expenditure required either to strengthen the development machinery for implementation of Plan programmes or to provide for additional staff required to make fuller utilisation of the capacities already created or projects completed by the end of 1971. The current outlay on the Plan has to be distinguished from the 'Committed' level of recurrent expenditure of the Central Government. Hitherto, the practice in Government has been to treat all recurrent expenditure both old and new, as a lump, and to confine the plan projects to Capital Account only. In an economy which lacks essential skills needed for promoting economic growth and where manpower constitutes a limiting factor on economic growth, this is an irrational practice to follow. It has also been the practice in the past to provide for complementary outlays on staff necessitated by certain capital projects from the capital fund. This is again an incorrect procedure and distorts the concept of investment. For the SNDP, therefore, it is proposed to distinguish the committed level of recurrent expenditure of the Central Government from the new recurrent expenditure required to finance development schemes aimed at development of human resources as distinguished from creation of material assets on Capital Account.

20. The 1971 Central Government Budget provided for a total recurrent expenditure of K329 million. It is felt that there is a considerable scope for economy in the recurrent expenditure authorised in 1971. In a way, the 1971 level is extraordinary and Government's resources for the SNDP will be considerably depleted if this level is maintained during 1972–76. It is necessary that every item of recurrent expenditure proposed by the ministries be scrutinised

and maximum economy exercised under all heads, in particular, under recurrent 'departmental charges' and 'subsidies'. Taking account of possible economies, the 'committed recurrent' expenditure must be kept down to K275 million in each of the five years of the SNDP bringing the total for the period to K1,375 million. Inclusive of this, the total expenditure of the *Public Sector* during 1972–76 will amount to K2,851 million as under:

	K million
(*a*) Committed recurrent expenditure of the Central Government ..	1,375
(*b*) Current outlay on the SNDP	205
(*c*) Public Sector Investment outlay	1,271
	2,851

The above-mentioned aggregate expenditure of K2,851 million excludes the expenditure, developmental as well as non-developmental, to be incurred by the Local Bodies from their own resources.

The Public Sector investment outlay of K1,271 million has been arrived at as under:

	K million
(*a*) Outlay to be financed through resources of Public Corporations and through their possible borrowing from domestic and foreign sources	242
(*b*) Outlay to be financed by the Central Government	1,029
TOTAL (*a* + *b*)	1,271

21. Table I–6 indicates break-up of the Public Sector investment outlay to be financed through budgetary resources of the Central Government by administrative Ministries and Provinces. Foreign funds of the order of K348 million likely to become available during the Plan period are included in the Ministerial allocations.

Table I : 6—Capital Expenditure under the FNDP and Allocation under the SNDP
(K million)

Ministry/Department/Province	FNDP Estimated Expenditure July 1, 1966 to June 30, 1971	SNDP Capital allocation by Ministries
President and State House National Assembly	1.2	0.5 1.5
Zambia Police	5.3	14.5
Ministry of Mines and Mining Development	31.2	41.0
Ministry of Home Affairs	3.4	3.4
Ministry of Foreign Affairs	2.9	2.4
Ministry of Provincial and Local Government and Culture	91.5	106.0
Ministry of Information, Broadcasting and Tourism ..	3.1	23.0
Personnel Division	19.3	3.0
Ministry of Development Planning and National Guidance	3.8	10.8
Ministry of Trade and Industry	95.9	29.0
Ministry of Finance	8.9	2.5
Ministry of Labour and Social Services	3.0	1.2
Ministry of Health	28.1	30.6
Ministry of Power, Transport and Works	242.4	417.4
Ministry of Education	61.9	90.3
Ministry of Lands and Natural Resources	16.0	34.7
Ministry of Rural Development	92.4	135.0
Ministry of Legal Affairs	—	1.7
Total for Ministries	710.3	948.5
Total Provinces	35.4	80.6
Grand Total	745.7	1,029.1

As mentioned earlier, the Private Sector investment outlay of K685 million includes the investment programme of those enterprises in which the Central Government holds 51 per cent or more equity capital. It also includes the private investments to be financed through loans from Government financial institutions and anticipated foreign private investments.

Financing of the Plan

22. The Central Government will have to mobilise aggregate resources of the order of K2,600 million during 1972–76 in order to meet its aggregate expenditures consisting of:

	K million
(a) Committed recurrent expenditure	1,375
(b) Current outlay on the Plan	206
(c) Investment outlay on the Plan (excluding contribution of Public Corporations from their internal resources)	1,029
TOTAL	2,609

23. For projecting Central Government resources for the SNDP an average copper price of K740 per metric ton has been assumed. It is estimated that at 1971 rates of taxation, the budgetary resources of the Central Government would amount to K2,456 million as under:

		K million
(a) Mineral revenue:		
(i) Copper	650	
(ii) Other minerals	20	
	—	670
(b) Income Tax:		
(i) Company	274	
(ii) Personal	245	
	—	519
(c) Customs Duties		207
(d) Excise Duties		262
(e) Other revenue		285
Capital Account		
(a) Domestic Borrowing		165
(b) Estimated borrowing from abroad		348
Aggregate Budgetary resources		2,456

This estimate leaves an uncovered gap of K153 million which will have to be covered through appropriate budgetary measures and non-budgetary sources.

24. To bridge the gap in resources, action on the following lines is envisaged:

(a) Consultations should be held with Government Institutions to explore the possibility of their financing some of the projects included in the SNDP. The National Provident Fund moneys, the National Saving and Building Society's resources and also the State Insurance Corporation funds can be utilised for financing some of the Plan projects. The water supply and sewerage schemes, the housing schemes, some of the power generation and distribution schemes, transport schemes, etc., can be fitted into investment policies of these institutions. Besides, Government's financial institutions can finance the requirements for working capital and other medium term loans of co-operatives included in the SNDP. Furthermore, as all the development projects of Government Departments/Ministries have to be included in the overall investment programme of the SNDP, any reserves held by revenue earning departments like the Post Office and Telecommunications Department will be utilised for financing their own expansion programmes.

(b) The Constitutional provision regarding amortisation of public loans on recurrent account may be reviewed. By and large the developing countries are giving up this practice in favour of the practice of repaying the public loan when it falls due through fresh flotation and conversion facilities.

(c) As the projections in regard to balance of payments for SNDP period will indicate, the country's foreign exchange earnings together with foreign loan funds of K348 million will be sufficient to meet both the maintenance imports of the economy as well as the import needs of the SNDP, provided, of course, the assumptions of import substitution underlying the objectives of the SNDP, materialise. One

immediate conclusion that flows from this is that resource needs of the economy as a whole can be met. It further follows that deficit in the public sector's resources can be met if appropriate measures are adopted to divert a part of private savings for financing the development programme of the public sector. The problem of resources gap for the Public Sector Plan will, therefore, have to be tackled through suitable adaptation of the fiscal policy, in particular, through taxation programme, through borrowing programme of the Central Government and through measures aimed at mobilisation of voluntary savings. Estimates in regard to the resources to be mobilised through these measures will be worked out in detail, so that an appropriate fiscal policy suited to the resources requirements of the SNDP is evolved and implemented during the course of the Plan.

C. FOREIGN TRADE AND BALANCE OF PAYMENTS

Commodity Exports Prospects

25. The significant increase of foreign exchange earnings over the period of the FNDP was due mainly to an enormous rise of copper prices and to an increased production and export of non-ferrous metals and other goods.

26. The sensitivity of copper prices to economic and non-economic factors as well as the absence of a long-term commodity agreement aimed at regulating the production and trade of copper caused severe price fluctuations for this metal, especially in recent years.

27. It is expected that the price of copper which declined appreciably in the recent past will recover in the years to come. Factors favouring a recovery of copper prices are the following:

- the continuation of inflationary trends in the world as a whole and the monetary instability in several Western countries;
- higher costs of production of copper related to increased production of ores with a lower metal content;
- increased consumption of the metal connected with the expected expansion of the world economic activities; and
- an expected more active role to be played by exporters in the fixing of future copper prices.

28. Considering the influence of copper prices on the overall economic and social activities of the country, some caution has been exercised in estimating copper prices for the SNDP period. Accordingly, the assumed value of K740 per metric ton is in fact 15 per cent lower than the average copper price achieved over the period of the FNDP.

29. It would follow that for realising a modest increase in the foreign exchange inflow a considerable increase in the physical volume of exports of copper has to be ensured in the SNDP.

30. Fortunately, the level of investments in copper mining industry would ensure an increase of production capacity, from 700,000 metric tons at the end of the FNDP to about 900,000 metric tons by the end of the SNDP.

31. Since only a small part of the assumed increase in copper production will be absorbed by local consumption, the expanded capacities will provide an additional 190,000 to 200,000 tons of copper for export annually.

32. With an annual increase of about 5 per cent in the volume of exports and assuming at the same time a rise in the world copper consumption of 4 to 5 per cent annually, Zambia should in the next five-year period remain the world's largest exporter of copper.

33. Although a degree of diversification of the industrial production is expected in the SNDP period, the share of non-ferrous metals in the national production and exports will continue to be high. At present these constitute 94-95 per cent of total commodity exports of the country.

34. During the SNDP the value realised from exports as a percentage of the country's GDP is likely to show a decline. Nevertheless, Zambia will continue to be one of those countries in the world with a high export coefficient. In other words, a high proportion of GDP will be accounted for by export income.

Volume and Pattern of Imports

35. Compared to other developing countries, Zambia imports proportionately more of goods and services from abroad to meet her domestic expenditure. This tendency is unlikely to be reversed during the SNDP, in spite of the increasing emphasis on import substitution.

36. An expected fall in export earnings in the beginning of the SNDP, as compared to the immediately preceding years, will necessitate a tight control on imports. The country enjoyed specially favourable terms of trade during the FNDP period, but due to a serious drop of the copper price in the recent past the terms of trade deteriorated significantly in 1971. As a result of such price trends no significant changes in the terms of trade over the period of the SNDP are likely to take place.

37. Some structural changes will occur in the pattern of imports during the SNDP. Such an orientation in production will bring about a faster increase in imports of intermediate goods and capital equipment and a simultaneously slower increase in imports of consumer goods which are expected to be produced in larger quantities locally. Imports of electric energy and coal will be gradually reduced during the Second Plan period and eventually eliminated by the end of SNDP. The overall growth rate of imports will be in step with the expected increase in GDP over the Plan period.

38. It is envisaged that during SNDP, imports will grow faster than exports so that the significant export surpluses achieved in the past period will dwindle substantially, as indicated below, in Table I–7.

Table I–7—Exports and Imports of Zambia
(K million)

	1970	1976
Exports, f.o.b.	+715	+740
Imports, c.i.f.	−425	−650
Commodity Trade Surplus ..	+290	+90

Invisible Transactions

39. While generally enjoying favourable trade surplus or excess of commodity exports over commodity imports, the country has to meet substantial yearly charges on 'invisibles'. A major item in this sphere is the freight charges on both imported and exported items. Considerable expenditures have to be incurred by Zambia on this largely because of the costliness of the long and arduous land routes which goods have to traverse to reach the port of Dar-es-Salaam. This accounts for a major deficit item in the balance of payments.

40. Another 'invisible' payment is the transfer of profits abroad on locally invested foreign capital. Fortunately these payments are decreasing now on account of the taking over of the mining companies and other big commercial concerns.

41. Some improvements in the investment income transactions are to be expected in the SNDP from a larger amount of invested foreign exchange holdings bringing about an increase in the foreign exchange earnings. But at the same time an increase in interest payments is assumed, resulting from a larger disbursement of foreign loans and higher interest charges during the SNDP period. The total wage bill of expatriates was estimated at about K148 million in 1968. Such earnings enable the expatriates to remit substantial amounts abroad. Any reduction of this item over the coming years will depend on the rate at which Zambia could substitute foreign experts with domestic ones.

42. One additional field in which the country can increase its foreign exchange earnings is international tourism. Substantially larger numbers of foreign tourists than presently visiting the country could be attracted if adequate tourist facilities are created, e.g. hotel beds, game viewing spots, facilities for hunting and safaris, etc.

External Finance

43. Zambia is, in view of its development potentials, capable of attracting, making use of and arranging for repayment of more foreign aid in the SNDP than in the past Plan period. It is recognised that during the SNDP the country will spend considerable foreign exchange resources for meeting repayment obligations emanating in particular from the taking over of the copper mining industry in 1969.

44. It will be necessary to conclude fresh foreign loans during the SNDP period. A major part of these loans will continue to be channelled, as in the past, to infra-structural development. Tourism and manufacturing industry will also absorb a part of these loans.

45. Since from the expected foreign funds inflow totalling K450–475 million during the SNDP period, repayments of annuities will absorb K250 to K300 million, the net inflow of foreign funds in the next five-year period will be around K175–200 million. It is estimated that debt service payments will absorb about 8 per cent of export revenues during the next five years. This must be considered a modest ratio for a developing country. It is Government's intention to maintain a minimum level of foreign exchange reserves sufficient to finance all essential import requirements for four months at any given time during the Plan period.

46. The following Balance of Payments Summary Table depicts the likely future trend in Zambia's external economic relations in the visible and invisible items of trade and income transfers abroad, over the SNDP period.

Table I–8—Balance of Payments Summary
(K million)

	1970	1976	% increase per annum 1970–76
Exports, f.o.b.	+715	+740	0.6
Imports, c.i.f.	−425	−650	7.4
Balance	+290	+90	
Non factor services, net	−50	−70	5.8
Balance of goods and non factor services	+240	+20	
Investment income:			
Private, net	−70	−35	
Government credits	+15	+20	4.9
Government debits	−10	−22	14.1
	−65	−37	
Transfers:			
Private, net	−50	−40	
Government, net	−5	−10	12.3
Private long-term capital, net	+10	+20	12.3
Public long-term capital inflow, gross	+30	+85	18.9
	−15	+55	
Amortisation	−20	−43	13.6
Change in Foreign Exchange Holdings	+140	−5	

Measures to Strengthen Balance of Payments

47. In order to encourage domestic production and protect the country's balance of payments, it is necessary to keep imports, of consumer and especially luxury goods, within desirable limits during the next five years.

48. One of the basic elements of future economic policy in this regard will be promotion of import substitution activities. In this respect preference will be given to—

(*a*) industries utilising local raw materials; and

(*b*) industries having adequate local market, especially those producing consumer goods foodstuffs and building materials.

Many other presently imported commodities characterised by bulk and weight can be profitably produced locally, considering the high transport costs incurred by imports.

49. One of the principles of trade policy should be an increased production to enable export diversification. This should be undertaken by an export promotion drive:

(*a*) domestically—aiming at improving quality and competitiveness of local product and

(*b*) externally—by means of shows, exhibitions, sales missions to foreign countries and provision of proper marketing information to exporters.

50. A review of the fiscal measures, more particularly the customs tariff, which happen to be much lower than in neighbouring countries, would bring about improvement in the balance of payments.

51. External trade is currently concentrated on a few industrialised countries. There exists a heavy imbalance in trade with South Africa, USA and the Middle East countries. Zambia has also an unfavourable balance with the East African countries. As against this, in the trade with the European Common Market and EFTA countries as well as with Japan, the country has a favourable trade balance.

52. There is, therefore, need to strive for greater country-wise diversification of external trade and extension of trade relations with various economic groupings. Zambia must also endeavour to improve the trade balance with those countries and areas with which an adverse trade balance exists at present.

53. Government will devote special attention to establishing closer economic relations with the countries of the East and Central African sub-regions. Trade promotion with these countries can be carried out on the basis of commodity-by-commodity negotiations, bilateral trade agreements, collection and dissemination of trade information, establishment of a trade promotion centre and special conventions aimed at facilitating border trade.

54. Conditions for a more efficient utilisation of foreign loans, grants-in-aid, etc., will be created in the coming years, by preparing a good number of viable projects for such financing. Government will welcome and actively seek new private foreign capital to develop her natural potentials.

55. It is advantageous to set up a State Trading Organisation through which the country can pursue a concerted programme of export promotion and also derive better results from her imports.

D. POPULATION, LABOUR FORCE, EMPLOYMENT AND MANPOWER*

Main Projections

56. The 1969 Census revealed that during 1963–69, the African population of Zambia increased by 17.3 per cent over the country as a whole at an annual rate of 2.7 per cent as compared to the FNDP estimated rate of 3.3 per cent per annum. But this national change conceals wide regional variations ranging from a drop of 6 per cent in Luapula Province to increases of 50 per cent in the Copperbelt and 82 per cent in Lusaka itself, the pattern reflecting the drift from the rural to urban areas.

57. According to recent estimates, the African population is expected to grow during the SNDP period from 4,336,000 in 1971 to 5,000,000 in 1976, an annual rate of growth of 2.9 per cent.† The UN Population Division projections (medium variant) put the annual rate of growth of the total African population of the continent for the period 1965–70 at 2.6 per cent. The corresponding rates of growth for the Latin American and South Asian population are estimated at 2.8 per cent. Thus Zambia would rank among countries with very rapid rates of population growth. By the year 1983, the African population of Zambia is expected to reach the level of 6,200,000, which is 51 per cent higher than the estimated 1969 African population. Tables I–9 and I–10 bring out the growth of population and the relevant demographic indicators respectively

Table I–9—Growth of Population of Zambia

(thousand)

Year	African Population (Estimated)		Non-African Population (Estimated)	Total Population
	Population	Annual Rate of Growth		
1963	3,510	—	87	3,597
1969	4,099	2.6	60	4,159
1971	4,336	2.8	60	4,396
1976	4,999	2.9	60	5,059
1983	6,187	3.1	60	6,247

* The discussion in this section pertain to African population only unless otherwise stated. The source of data presented in the various tables are those estimated by the Planning Committee on Population, Labour Force and Migration unless otherwise stated. The estimates are provisional.

† The estimated projections took the base 1963 population at 3,510,000 as compared to the actually enumerated African population of 3,408,000 to allow for the possible under-enumeration at the 1963 census. The projected African population for the year 1969 on this basis was 4,099,000 as compared to 3,988,000 actually enumerated at the 1969 census. As it was felt that the under-enumeration at the 1969 census is likely to be of the order of 3 per cent, the Planning Committee approved the projected estimates for the year 1969.

for the period 1963 to 1983. The social and economic significance of these facts, particularly in the fields of education and other social infra-structure, is obvious. There is hardly any change in the age structure of the population though there is a considerable difference in the growth rates of different age groups.

Table I–10—Some Important Demographic Indicators of Zambia's African Population, 1963–83

Demographic Indicator	1963	1969	1971	1976	1978	1983
1. Total African population (thousand)	3,510	4,099	4,336	4,999	5,303	6,187
2. Percentage of total population of age-group:						
(a) 0–14	44.8	45.8	45.9	45.9	45.9	46.2
(b) 15–44	42.8	41.8	41.7	41.6	41.6	41.4
(c) 45–64	10.1	10.3	10.3	10.3	10.3	10.2
(d) 65+	2.3	2.1	2.1	2.2	2.2	2.2
(e) 7–19	29.7	30.9	31.4	31.8	31.8	31.6
3. Sex Ratio[1]	984	987	987	990	991	992
4. Dependency Ratio[2]	890	919	923	927	927	938

[1] Number of males per thousand females.

[2] Number of dependents (population aged 'under 15' plus '65 and over') per thousand of the working age population (population in the age group '15–64').

Urbanisation

58. The estimates of the rural–urban breakdown of the country's population (Table I–11) bring out the fact that the dimensions of the drift of the rural population to urban areas ha assumed such proportions as to dictate urgent attention to reducing this movement. Durin 1963–69, the urban male and female populations have increased at an annual rate of 7.6 pe cent and 10 per cent respectively, as compared with a total population growth rate of 2.6 pe cent per annum. In the immediate years after Independence there was a substantial movemen of population as families joined their male working members in urban areas and because o increased employment opportunities coupled with high expectations resulting from pos Independence developments. It is considered unlikely that the process of urbanisation coul continue at this rate in the future. The emphasis on rural development in the SNDP shoul enable rural areas to absorb larger proportions of their population and labour force. Moreove lack of adequate employment opportunities and increasing cost of housing in the alread crowded urban areas will act as a disincentive to the rural–urban movement of the population On a balance of considerations it is assumed that male net in-migration rate would decline fro 4.9 per cent to 3.4 per cent during 1966–78, the corresponding decline in female net in-migratio rate being from 7.4 per cent to 3.7 per cent. On this basis, it is estimated that the urban Africa population will reach a level of 1,822,400 in 1976 as compared to 1,309,000 in 1971 and 1,128,00 in 1969. Such an increase in the urban population would mean an increase of 39.2 per ce during the period 1971–76, a growth rate of 6.8 per cent per annum. The proportion of males i the prime working ages 15–44 would be higher (49.5 per cent in 1971 and 46.4 per cent in 197 in the urban areas as compared with rural areas (38 per cent in 1971 and 38.7 per cent 1976). Even with this reduced rate ofnet in-migration, the proportion of urban to total popul tion would increase from 19 per centin 1963 to 39 per cent in 1978, which is a very significa increase in a period of fifteen years. This brings out the unprecedented nature of the urbanis tion process the country has experienced since 1963 and is likely to experience in the period SNDP.

Table I–11—Urbanisation 1963–76—African Population Only

(thousand)

Year	Population		Ratios of Urban to total (percentage)
	Urban	Rural	
1963	667	2,843	19.0
1969	1,128	2,971	27.5
1971	1,309	3,027	30.2
1976	1,822	3,177	36.4
1978	2,076	3,227	39.1

Growth of Labour Force

59. Recent estimates put theoverall labour force participation rates for the men a women at 44.1 and 21.3 per cent respectively, for the year 1969, giving a total African Labo

Force of 898,000 males and 440,000 females*. In the decades to come these labour force participation rates are likely to increase, especially for women; this would mean that the labour force would grow faster than the population, thus placing a heavy strain on the creation of employment opportunities. The recent calculations assumed that the overall labour force participation rates would gradually increase to 48.6 per cent for males and 29 for females by 1983. On this basis it is anticipated that during 1971–76, the labour force would increase from 1,453,000 in 1971 to 1,787,000 in 1976, an increase of 23 per cent as compared to population increase of 15 per cent during the same period. In other words, about 67,000 persons (38,000 men and 29,000 women), are expected to enter the labour force annually during the period of 1971–76. Table I–12 presents the trend in the total labour force for the period under consideration. These figures bring out the scale of the problem of employment creation. It should be emphasised that not all persons in the labour force would be seeking employment in the wage labour market. Some of them would be absorbed as self-employed and unpaid family workers in the traditional agricultural sector and also in other traditional occupations. On the assumption that the 1969 proportion of workers in the labour force who will be absorbed as self-employed and unpaid family workers in the traditional sector would hold good for the future, 230,000 wage paid jobs (137,000 for men and 93,000 for women) will have to be found during the SNDP, an average of about 46,000 jobs a year (27,000 for men and 19,000 for women) in the rural and urban areas taken together.

Table I–12—Trends in the Labour Force

Year	Labour Force (thousands)			Annual Rate of growth (percentage)	
	Males	Females	Total	Labour Force	Population
1969 ..	898	440	1,338	—	—
1971 ..	963	490	1,453	4.2	2.8
1976 ..	1,151	636	1,787	4.2	2.9
1978 ..	1,241	705	1,946	4.4	3.0
1983 ..	1,496	901	2,397	4.3	3.1

Urban–Rural Breakdown of Labour Force†

60. In the study of the relationship between the labour force and employment, it may be useful to distinguish between the rural and urban labour force, in view of the special characteristics of the former. According to the 1969 census, nearly 64 per cent of workers were in the rural areas. About 68 per cent of rural workers were in the agricultural sector, about 90 per cent of them in the subsistence sector. Most of the workers in the subsistence sector are either self-employed or unpaid family workers. Out of a total addition of 334,000 (188,000 males and 146,000 females) to the labour force during 1971–76, urban areas are likely to account for 186,000 (110,000 males and 76,000 females) or nearly 56 per cent, which would mean an addition of about 37,000 to the labour force annually in the urban areas.

Employment

61. Table I–13 below gives the occupational distribution of the working population according to the 1969 Census. Nearly 45 per cent of Africans followed 'agricultural and allied' occupations, the 'production and related workers' with 27 per cent being the next important occupational group. Nearly 12 per cent of the African working population was in the service occupations. The proportion of African workers among the highly skilled categories was much less: 'professional, technical and related workers' accounted for only 1.6 per cent among Africans as compared to 35.6 per cent among non-Africans. The proportion of 'Administrative and Managerial workers' among non-Africans was nine times that among Africans.

* The labour force is defined as those persons who are either working, seeking work or available for work. According to the census of 1969 the labour force consisted of 706,000 males and 388,000 females. These are likely to be underestimates.

† The urban areas include Lusaka, Livingstone, Kalwe and the whole of the Copperbelt (excluding Ndola Rural District) and also Chipata, Chirundu, Kasama, Mazabuka, Monze and Mumbwa. Other townships are included in rural areas.

Table I–13—Working Population Classified by Occupational Groups
(thousand)

Occupation	Africans	Non-Africans	Total
Professional, technical and related activities ..	11.7 (1.6)	9.6 (35.5)	21.3 (2.8)
Administrative and managerial	7.5 (1.0)	2.5 (9.3)	10.0 (1.3)
Clerical and related activities	59.4 (8.1)	4.1 (15.2)	63.5 (8.4)
Sales workers	37.6 (5.2)	2.1 (7.8)	39.7 (5.2)
Service workers	86.8 (11.9)	0.6 (2.2)	87.4 (11.6)
Agricultural and allied sector workers ..	329.3 (45.1)	1.0 (3.7)	330.3 (43.7)
Production and related workers	197.5 (27.1)	7.1 (26.3)	204.6 (27.0)
Total	729.8 (100.0)	27.0 (100.0)	756.8 (100.0)

NOTE—Figures in brackets are percentages to total.
Source: 1969 Census Report—Table 36, page B60.

62. According to the 1969 Census, 382,000 persons were seeking work, of whom about 70,400 (18.4 per cent) only were in urban areas. The Census was conducted in the months of August and September which fall in the slack period of the agricultural season and naturally there would not have been much economic activity in agriculture at that time. Many self-employed and unpaid family workers of the traditional agricultural sector must have reported that they were without work and when further questioned must have said that they were seeking work. Thus it is likely that a significant proportion of the persons classified as 'seeking work' in the rural areas were seasonally unemployed workers of the traditional agricultural sector. Activity status concepts that are applicable to developing countries would exclude such persons from the category of the unemployed. If these seasonally unemployed persons were excluded, the extent of unemployment in the rural areas is likely to be much less than what was brought out by the Census of 1969.

63. According to the Central Statistical Office estimate, the organised sector of Zambian economy absorbed 82,000 workers, an average of 16,400 workers per annum during the five-year period 1965–70. As already indicated, during the SNDP period it is estimated that about 334,000 workers, i.e. 67,000 per annum, will be added to the labour force, of whom about 37,000 per annum will be in the urban areas. Allowing for the proportion of the labour force to be absorbed as self-employed and unpaid family workers in the traditional sector, about 230,000 wage-jobs would be needed during the SNDP in the rural and urban areas taken together, an average of 46,000 jobs a year. However, there are sufficient reasons to believe that the actual additional requirements of wage jobs during SNDP would be less than 230,000. Firstly, in the rural areas the real proportion of the self-employed and unpaid family enterprise workers among the labour force is likely to be much higher than what was assumed based on the 1969 Census data. As the Census was conducted during the months of August and September which fall in the slack agricultural season it is quite likely that a good number of workers in the agricultural sector, especially the workers belonging to categories self-employed and unpaid family workers, was not accounted for in the Census. This would have under-estimated the proportion of these categories in the total labour force. Secondly, the developmental efforts projected in the SNDP would provide increased opportunities directly and indirectly for self-employment in the urban and semi-urban areas outside agriculture than what was possible at the 1969 Census date. As a result of these two factors, the proportion of the self-employed and unpaid family workers would be much higher than that assumed, with the result that the addition to the number of wage job seekers during the SNDP would be much less than 230,000. Looked at this way, the problem of employment creation would appear to be much less alarming. The combination of an unceasing flow of workers from rural to urban areas and the objective limitations in the employment absorption capacity in the organised sector in the SNDP only underlines the nature of employment problem and the need to maintain the fastest economic development as the only successful way of reducing the time-span within which this problem will be solved.

64. The FNDP experience has underlined the fact that it is not enough to maintain a high rate of growth and that it is equally essential to ensure growth with a degree of price stability. What is urgently called for is an urban wages and incomes policy to encourage

employment and a massive rural regeneration programme to increase rural employment. A national wage policy is required if the employment objectives are to be attained, on the principle that it is more urgent to provide work for the jobless than to raise the earnings of those who have jobs, especially where they enjoy relatively high earnings. In order that gains from the creation of additional jobs are not offset by losses among existing jobs, it is imperative that, wherever possible, labour intensive methods are used in government and private production.

65. The Gross Domestic Product (monetary) at 1964 market prices increased by 54 per cent during 1965–70 and during the same period total employment in the organised sector (including commercial agriculture) has increased by 29 per cent. In the manufacturing sector GDP at constant prices increased during 1965–70 by 54 per cent as compared to employment in the sector which has increased by 35 per cent. What is urgently called for is to treat employment as an *objective* of development, not as a by-product. When, for instance, surplus labour is mobilised to construct a school, a small factory, a small dam or an irrigation channel then it directly broadens the investment capacity of the economy. If approached properly, employment as a development objective need not sacrifice the growth of national income for the sake of a faster employment increase. In view of the fact that rural–urban migration is an important factor in the aggravation of the employment situation in urban areas, the provision of more rural jobs is the first line of defence in the battle against unemployment. Increased rural employment promotion will therefore be fostered actively during the SNDP. Greater responsibility will be placed on District Administrations for reducing unemployment in their areas with the help of Ward and Village Development Committees, through the location, organisation and execution of various labour intensive projects, particularly those providing infra-structure. Detailed discussions and surveys must precede such undertakings.

66. The introduction of small-scale industries in the rural areas based on the available natural resources away from the line of rail will provide the nuclei of non-agricultural activities, the first step towards the long-term process of changing the economic and population structure of these areas. There are, for example, some employment opportunities in the development of forestry to provide raw materials for a number of industries, large as well as small. However, it is the increase of agricultural output and efficiency of production in traditional small-scale farming that will contribute most to reducing large-scale migration to urban areas. The general rule will be to emphasise those modern agricultural techniques which do not displace labour but instead need more labour. The results of research into such modern techniques will be carried to the small farmer through a network of extension services. The recently successful green revolution in agriculture has shown that small farms are not necessarily inefficient and that the new agriculture absorbs more labour while at the same time increasing productivity per acre. Such a policy towards agriculture, apart from easing the problem of unemployment and underemployment will contribute to exports and import substitution and also improve the purchasing power of widely spread rural masses, which in turn will increase the effective demand for the country's developing manufactures. A major effort will also be made to involve young people in the development of rural life and the necessary infra-structure, so that more may find their livelihood in rural areas. Intensive Development Zones will be a major instrument in developing the economic potential, and thereby also the employment opportunities, of rural areas and will play their part in slowing down future emigration from these areas. These various aspects of employment and population movement are dealt with in detail in other chapters, particularly those dealing with Education and Training, Community Development and Rural and Regional Development.

Employment Prospects During SNDP

67. Table I—14 gives the estimated employment position in the various sectors of the economy, along with the estimated employment figures for December, 1971. Additional wage-paid jobs of the order of 100,000 are expected to become available during the period of SNDP, an average of 20,000 jobs a year. These are to occur in the organised sector of the economy; in addition, a good number of wage-paid and self-employed opportunities would arise in the various small shops, enterprises and services resulting from the SNDP projects and the overall economic development. One aspect emphasised in the Intensive Development Zones is employment generation, which in turn will increase the scope of employment outside the Zones.

Education Level

68. According to the 1969 Census, there were hardly 3,000 Africans in the country with technical and higher education. The number reaching Upper Secondary level was 25,000 for males and 7,000 for females. Nearly half of the African population aged five years and over had

no schooling. Although 80 per cent of the eligible age group will be in primary schools by the end of the SNDP, and secondary and technical education will continue to be expanded according to manpower requirements, the country will still not have all the education and skills necessary for the development of its full potential.

Table I–14—Employment by Industrial Sectors in December, 1971, and Anticipated Employment by December, 1976

(thousand)

Sector	Employment During			
	December, 1971		December, 1976	
	Number	Percentage of total	Number	Percentage of total
Agriculture, Forestry and Fisheries (excluding subsistence sector)	36	8.9	46	9.1
Mining and Quarrying	64	15.8	66	13.1
Manufacturing	38	9.4	63	12.5
Construction	78	19.3	108	21.4
Distribution, Hotels, Restaurants and Tourism	35	8.6	38	7.5
Transport and Communication	23	5.7	28	5.5
All Services[1] including Government Service, Community and Social Services, Business Services	131	32.3	156	30.9
All Sectors[1]	405	100.0	505	100.0

[1] Including approximately 35,000 in the domestic services.

Source: Estimated in the Development Planning Division. Corrected to nearest thousand.

School Leavers

69. Since Independence primary school output has risen nearly five-fold from 13,000 to about 64,000 in 1970. In secondary education, where output has been geared to manpower requirements, Form I enrolment more than tripled during the period 1964–70. However, about 48,000 or four out of every five Grade VII output, did not enter secondary school in January, 1971. By 1978, the number is expected to reach 100,000, with a slight improvement to one out of four in the progression rate. The progression rate from Form III to Form IV is expected to stabilise at around 50 per cent during the Second Plan period. During 1972–76, the secondary school output is likely to be around 8,140 at Form III level and 6,840 at Form V level a year, on an average, compared to about 70,000 at Grade VII level. Compared with such a high output from the primary school system, the intake of Grade VII leavers into all forms of training has not been significant and is in fact diminishing, due to competition from secondary school leavers at Form III level. As unemployment increases, primary school leavers face heavier competition from physically mature older youths for unskilled jobs and from better prepared Form III leavers for semi-skilled and clerical jobs.

Manpower Planning and Skill Development

70. Quick estimates of requirements of various categories of technical manpower and the supply position in respect of these categories bring out that a most serious handicap to development lies in the shortage of skilled manpower—technical and managerial. Further work on this is in progress and first results are expected to be available early in the SNDP. Zambianisation is essential in order to achieve the greatest possible self-sufficiency and independence, and is an indisputable prerequisite to manpower development. This adds a further dimension to the national demand for education and training. The faster the expansion of the national economy to be achieved, the more dynamic and versatile in forms and approaches national educational planning must be. All these are obvious enough. What is not so obvious is the need for a nationally guided and well structured educational policy and skills development programme. A major problem facing the country is the high level of 'unemployable' as opposed to the 'unemployed' persons, as a result of the large number leaving the school system at Grade VII and Form III and Form V levels, who are mostly without any skills and who are expected to enter the labour market for jobs in coming years.

71. There is, therefore, a very urgent need to develop training programmes on a very large scale. While basic skills can be developed in Government-supported vocational training institutions, the various industries will be encouraged to develop various forms of in-plant training for their own labour force. An 'Industrial Training Act', compelling all employers to contribute towards training of Zambian citizens is under consideration. It is also necessary to improve greatly the facilities for careers guidance open to the school children. The work of the Educational and Occupational Assessment Service, presently carried on in the Ministry of Labour and Social Services, is concerned with selection for employment and tertiary education, particularly of Form V school leavers, and will be expanded and improved to ensure efficient utilisation of manpower as part of integrated manpower planning during the SNDP.

72. There is also an immediate need for the orientation to rural life of large numbers of boys and girls in rural areas who have completed Grade VII and Form III of their school education. This mobilisation of human resources requires much larger and more varied pre-vocational training programmes than any presently envisaged by the Commission for Technical Education and Vocational Training, valuable and extensive though they already are. The possibility of launching a pilot project under the International Labour Organisation's 'Jobs and Skills Programme' for Africa will be considered. If found feasible, such a programme will be co-ordinated with existing pre-vocational training schemes and geared towards integrated rural development.

Area Manpower Surveys

73. There is great need for a detailed and systematic assessment of the nature and extent of rural employment problems. Area Manpower Surveys would lead to systematic information on—

(*a*) characteristics of the unemployed, out-of-school youth in Zambia, particularly those in rural areas who comprise two-thirds of the total school leaving population;

(*b*) personal, social and economic factors involved in the emigration of rural youths in search of urban jobs;

(*c*) the attitude of young people to 'work' as distinct from 'employment';

(*d*) the nature and extent of self-employment; and

(*e*) other significant aspects of the pattern of urban job-seeking, such as the different conditions of schooled and unschooled youths.

74. Efforts will be made to cover all these aspects in any detailed assessment of manpower. Such surveys would also cover physical resources, population and labour force characteristics, occupational–industrial patterns, available skills, education–training requirements, etc., and are expected to determine future employment opportunities, thus helping planning of human resource-orientated rural development programmes. In addition, household sample surveys on employment, unemployment and the labour force will also be undertaken during the SNDP.

E. INCOMES, WAGES AND PRICES POLICY

75. The basic objective of any development programme is to increase the real income of the nation. The relationship between productivity and wages crucially affects the capacity of the economy to achieve a fast growth rate. Increases in wages unrelated to rise in productivity is bound to result in price rises which would adversely affect the objective of raising the standard of living of the population. Thus, an incomes, wages and prices policy forms an integral part of any development programme.

Incomes and Wages Policy

76. An incomes policy aims at securing not only an increase in total real income, but also in an equitable distribution of the same. In regard to the former, the experience of the FNDP was far from satisfactory. According to the Report on Incomes, Wages and Prices (Turner Report), although capital investment made since 1965 should have increased the average workers' output by 12 per cent, it had actually fallen by 12 per cent. It has also been pointed out that during FNDP, whereas real wages in the manufacturing sector increased by 40 per cent between 1965 and 1970, productivity increased by only 20 per cent. The low level of productivity may be attributed both to social as well as institutional factors. The former includes absenteeism and lack of discipline, less cost-conscious management, etc.; the latter include granting of automatic increases in wages and salaries without regard to performance, lack of sufficient skilled manpower, of efficient management, etc. For tackling the problem of low

productivity, the Government will introduce early in the SNDP a system whereby wage increases are linked to increases in productivity. For this, work studies will be intensified to cover a larger number of industries.

77. While emphasising the linking of wages to productivity it is also necessary that labour is assured of a minimum level of wages in all industries. New labour laws detailing the relationship between labour and management will be introduced during SNDP. The Workers' Council Bill envisages the setting up of workers' councils, comprising employers and employees, in each industry or company, which will draw up a code of discipline and other aspects concerning human relations. While the management would retain the power to employ and dismiss, it will have to consult the workers' council before dismissing an employee. The Industrial Court Bill is designed to provide for arbitration in labour disputes with the full authority of the High Court presided over by a Judge; the law also provides for registration of labour agreements with the High Court by employers and employees. Another bill is designed to ensure improved relations between employers and employees.

78. The problem of productivity in the services sector has to be dealt with through expansion of in-service facilities and through organisation of part-time courses so as to enable the employees to improve their professional qualifications. Salary scales have to attract the right people but recruitment procedure must be such as to induce people to acquire the necessary qualification. Promotion should be based on proven efficiency and merit and not on the length of service alone. The lack of manpower is being resolved at present through the recruitment of foreign technicians and professional men. Special attention is required to ensure that these experts, while helping the Government in various fields, also train their Zambian colleagues so that best results can be achieved in the Zambianisation of various services.

79. The next aspect of income policy relates to the narrowing of the gap in rural-urban income. A major solution to the problem of narrowing the disparities between rural and urban incomes lies in strengthening the agricultural sector of the economy. To this end the SNDP aims at decentralising industries, despite the additional costs involved. In the absence of decentralisation of industries, there will be an accentuation of the problem of housing shortages, water shortages and a host of other social problems which will cost the country much more than the cost of decentralisation.

80. In order to induce opening of industries in rural areas, it may be necessary to provide incentives at least in the initial stages—such as subsidy for rural industries, tax holiday and some concessions in transport so that the costs on this account may not be higher than for industries situated on the line of rail.

81. Another aspect of income policy is the equitable distribution of income among the various classes of the community. It is particularly important in this country which has adopted Humanism as its guiding policy. Measures will be called for to prevent accumulation of unearned income like interest and rent through unfair means. Specific measures would include strengthening of the Rent Control Board so that it can become an effective instrument for safeguarding the interests of tenants and strengthening of the co-operative movement so as to ensure availability of credit at reasonable rates of interest.

Price Policy

82. The SNDP has been framed on the assumption of reasonable price stability over the Plan period. Experience of the FNDP has demonstrated the need for vigilance in regard to the maintenance of price stability. So long as wages move in step with productivity there may be no serious threat to the maintenance of stability. But there are certain inherent elements in the economy which may cause prices to rise. In the first place, resource mobilisation may lag behind outlays, necessitating deficit financing. If stretched beyond limits; deficit financing may cause inflationary pressures. Secondly, the structure of the economy, in particular its dependence on imports, for the supply of almost the whole range of requirements, exposes it to inflationary pressures emanating from abroad.

83. Having regard to the need for maintenance of a reasonable degree of price stability, the investment programme of SNDP gives priority to projects with short gestation periods as well as to those bringing about import substitution. Further, comparatively high priority has been given in the Plan to programmes aimed at maximum utilisation of capacity already created. Obviously import substitution cannot be achieved overnight and this means that efforts must be intensified to obtain imports from cheaper sources.

84. To diversify imports in future, arrangements will be made for supply of equipment for public sector projects on the basis of global tenders. The Plan has given high priority to development of means of transport of goods from the ports to the consuming centres in Zambia so as to reduce the present high cost of transportation. On the monetary front, in addition to general credit control, measures such as a production-orientated credit policy, prohibition, either voluntarily by banks themselves or, if necessary, by directives issued to the banks, of credit for speculative purposes would go far in ensuring a reasonable degree of price stability.

85. The system of physical price control, through the fixation of fair prices for essential consumer goods and penal provision for over-charging has been working fairly satisfactorily. The scope for extending the system of price fixation for a larger number of commodities will be explored.

86. While laying emphasis on the need for reasonable price stability, price revision, particularly for goods and services of public enterprises which have been incurring losses, will be applied rather than paying large subsidies to the enterprises concerned. Before allowing an increase in prices, it is necessary to ensure that the industry/enterprise has taken all the steps to keep down costs of production and to run it with the utmost efficiency.

F. MONETARY AND FISCAL POLICY

Monetary Policy

87. The experience during FNDP, in the monetary sphere, recorded in some detail earlier, underscores the need for increasing vigilance to prevent the re-emergence of an inflationary situation during SNDP. The chances in this behalf would seem to be greater during the SNDP than during the FNDP. In the first place, the projected outlays on investment for SNDP mark a substantial increase over the actual outlays on FNDP. Secondly, unlike in the FNDP, a resources gap is quite likely to emerge in the SNDP. In particular, the rate of growth in the value of output of copper which will continue to be the mainstay of the economy during the SNDP is not expected to be as fast as during the FNDP. This will be reflected in the less favourable balance of payments situation as compared with that obtaining during the FNDP, particularly in 1969 and 1970. The policy of import substitution, emphasised in the SNDP, may itself result in the emergence of an inflationary situation especially if such policy does not ensure adequate supply of domestic goods or if such import substitution is followed by an increase in domestic costs resulting in an increase in prices. It is against this background that appropriate monetary policies have to be adopted to meet an emergency during SNDP.

88. In this connection it may be recalled that during the FNDP, monetary control was exercised solely through the system of credit control. The ultimate objective of the measure was to enlarge the Zambian sector of the economy. At the time the credit control was introduced the Zambian sector of the economy was relatively small (estimated at about 15 per cent) and hence credit control met with a measure of success. But subsequently it lost its effectiveness to some extent, partly as a result of the relaxation of the definition of the Zambian sector so as to include enterprises where Zambian ownership formed more than 51 per cent instead of only those enterprises with 100 per cent ownership as hitherto, and partly as a result of the expansion of enterprises with Government participation. The existence of sizeable liquidity with the banking system also impaired to some extent the effectiveness of monetary control. Finally, the bank rate mechanism has also remained virtually ineffective as a monetary weapon.

89. In the light of the foregoing, the technique of monetary control for SNDP needs to be modified in such a way as to enable the Central Banking authority to play a more effective role. The Bank of Zambia should use the powers available to it under the Act to vary the reserve ratios as well as the liquidity ratios of commercial banks as and when the situation demands. By controlling liquidity, the utility of the bank rate mechanism as an effective instrument of credit control will be enhanced.

90. As regards credit control measures, while emphasis should continue to be on checking undue expansion of credit, care will be taken to ensure that the genuine needs of credit, particularly of the preferred sectors of the economy, are adequately met.

91. At this stage, it may be emphasised that during SNDP there will be an increase in the credit requirements of both para-statal and private sector organisations, as a sequel to the increase in investments envisaged in the Plan. Naturally, the commercial banks cannot be

... to shoulder the burden of financing the whole of the credit requirements in SNDP. ... can the Government be in a position to provide finance on the same level as in the past, ... only because of resources constraints but also because the Government will be ill-equipped ... undertake elaborate appraisal of projects, as to their feasibility and viability, before giving assistance. It follows from this, that the existing financing institutions such as the building societies, insurance companies, Agricultural Finance Company and Findeco will have to participate in the financing of projects on a larger scale than in the past. In addition, there is an urgency for setting up a special Development Bank for financing new industrial projects because of the high priority assigned to industrial development in the SNDP and in future development plans.

92. In order that increasing credit requirements are met without creating undue strain on liquidity, it is necessary to maximise efforts for mobilisation of savings. Insurance companies, building societies and the National Provident Fund have been playing a notable role in this behalf. There are indications that these institutions can accelerate the pace of mobilisation of savings in future. The larger the savings mobilised by them, the larger will be the funds available for financing development. Since a part of the resources at the disposal of these institutions are also invested in Government securities, a larger mobilisation of savings will also ensure the success of the Government's borrowing programme.

93. In so far as banking companies are concerned, there has been a deceleration in the rate of growth of deposits in recent years, from 28 per cent in 1968 to 14 per cent in 1970. This trend lends urgency to the need for measures for an accelerated deposit growth. Deposit mobilisation will be undertaken not only through the existing network of branches but also through opening up of new branches. Suitable incentives will be given, for example, in the form of a modest stepping up of the deposit interest rates to achieve a higher order of deposit growth. The argument, often made, that deposits are not interest-elastic, does not seem to be substantiated by facts; available data indicate that over the years, depositors have shown increased preference for time deposits which earn higher interest rates than savings deposits.

94. There has been no expansion in branch banking since the end of 1969. The number of commercial bank branches and sub-branches remained unchanged at sixty-three between December, 1969, and December, 1970. Moreover, the existing branches are concentrated in the capital city and the predominantly industrialised Copperbelt area. Extension of banking offices in rural areas is imperative for mobilising the rural savings, which will undoubtedly increase as a result of increased investment in the agricultural sector, as well as for enlarging the monetised sector of the economy. The slowing down in the opening of new offices in rural areas is attributed to the unprofitability of such branches. A solution of this problem lies in subsidising such branches in the initial years. A real hurdle in the way of expansion of banking in rural areas, however, may be the lack of proper and adequate roads and communication facilities. Development of road communications may take time. Until such time as they are developed, the existing co-operative institutions and the postal savings system will be used for mobilising deposits in rural areas.

95. If savings in rural areas are to be fully tapped, there is need to mount a vigorous campaign for small savings in these areas. Briefly, the campaign would have for its main objective the inculcation of the thrift habit among students, as well as adults. A survey for exploring the savings potential in villages and small towns is also desirable. One serious obstacle in the way of mobilising savings appears to be the tendency of many people for excessive spending on alcoholic drinks. Only education and propaganda can succeed in discouraging this waste; such education can form part of a social welfare campaign.

96. In a developing economy, the role of the central bank is not confined only to the enforcement of monetary discipline, for the sake of maintaining the internal and external stability of the national currency. It has also to play a promotional role in various fields such as assisting commercial banks in their branch expansion programme. In particular, the Bank of Zambia is expected to come forward in providing financial assistance for the development of both agriculture and industry in the country. The Bank of Zambia can be expected to help not only by participating in the activities of the special Development Bank referred to earlier, but also by encouraging commercial banks to undertake long-term financing of industrial projects through suitable re-finance facilities which are provided by central banks in most developing countries.

Fiscal Policy

97. Monetary control will not succeed unless it is supported by complementary fiscal measures. The need for utmost fiscal rectitude on the part of Government cannot be over-emphasised. Fiscal discipline is necessary for securing utmost economy in non-development expenditure. In particular, areas where Government needs to be watchful are expenditure on subsidies and provisions for loans recovery. On the positive side, concerted efforts must be made to maximise mobilisation of tax and non-tax resources so that deficit financing is avoided, or at least kept to the minimum. The aspect of resource mobilisation is dealt with in some detail below.

98. The tax rate to be paid by the Mining Sector during the next several years was fixed when the agreement regarding the acquisition of the mining companies' assets was signed. Having in view the fixed tax rate, a lower copper price, the desirability of channelling more investment into the mining sector and a certain rise in production costs, the fiscal revenue accruing from the mining sector over the period of the SNDP is expected to be lower than during the FNDP. In order to substitute the assumed decrease of the revenues accruing from the mining sector and to enable, simultaneously, a desired increase of the overall government revenues, it is necessary to expand significantly the revenues from other sources, both domestic and foreign. Only with a significant increase of the fiscal revenues from sources outside the mining sector will it be possible to maintain the share of fiscal revenue in the GDP at a level of about 34 per cent which was achieved during the FNDP. With such a ratio, Zambia will continue to be among countries where Government revenues contribute a large share of GDP.

99. The magnitude of the effort the country will have to undertake in order to accomplish the assumed increases in the revenue from sources outside the mining sector could be judged by the fact that these sources would have to generate 63 per cent of all government revenues of the SNDP compared to 43 per cent during the FNDP. Simultaneously, it is assumed that the revenues from the mining sector will be responsible for 37 per cent of overall resources in the coming years compared to 57 per cent during the FNDP.

100. The rate of growth of expenditure in the coming years is projected to be slower than the rate of growth of the GDP, although significant increase in domestic and foreign borrowing is envisaged.

101. A faster expansion of the budgetary outlays would create too heavy a burden to the economy, especially to the saving capacity of the country.

102. A further redistribution of the income would bring about a decrease in savings required for investments in highly productive sectors and an increase of the budgetary expenditures with very small impact on the expansion of production. An economy with such a heavy fiscal burden could not be more heavily taxed without running the risk of reducing the funds indispensable for an expansion of production, and hence the budgetary revenues, in the years to come.

103. Since in the recent past a significant increase in the budgetary expenditure, both recurrent and capital, took place, the implementation of the recommended fiscal policy calls for necessary adjustments in order to keep the non-developmental Government expenditures at the beginning of the SNDP below the level of the outlays foreseen in the 1971 budget.

104. Only larger revenues, based on a higher copper price than assumed, could enable a larger increase of the budgetary outlays in the coming years.

105. It is to be expected that, on the basis of the mentioned assumptions, the government revenues as well as the expenditures over the period of the SNDP will be about 30 per cent larger than the revenues and the outlays during the period of the FNDP.

106. In the SNDP, about two-thirds of the funds will be used for recurrent and one-third for capital outlays, while over the period of the FNDP these ratios were 60 per cent and 40 per cent respectively.

CHAPTER II—THE RURAL SECTOR
(Agriculture, Forestry, Wildlife and Fisheries)

A. SCOPE AND BACKGROUND

This chapter deals mainly with Government activities as related to the economic sectors of agriculture, forestry, fisheries and wildlife. To obtain a full picture of Government development effort in the rural sector as a whole, reference must be made to the chapters dealing with other sectors, notably communications, health, education, community development and manufacturing. In accordance with the policy of decentralization, many programmes of rural development are entrusted to Provinces and appear under Regional Development.

2. The programme for the rural sector laid down in the First National Development Plan aimed both at rural development and at greatly increasing rural production. While striking advances were made during the period in the production of certain commodities, output of some important commodities stagnated or even declined, giving rise to a very rapid increase in imports of agricultural produce. The failure to develop production as envisaged in the plan is only in part attributable to shortcomings in the plan itself, but mainly to unforeseen and often unavoidable economic problems encountered.

3. Some real achievements of the FNDP period in developing the rural areas are not measurable in terms of the production yardstick. The provision of services and facilities has become more widespread and many new schemes were established that should yield results of value in the coming years. But the provision of services and facilities—or indeed the expenditure of Government funds—does not in itself constitute rural development. Too often during the period of the FNDP, expectations were raised that could not be satisfied by an over-stretched Government organisation throughout the rural areas, and insufficient attention was given to the essential element of self-reliance. The failure to maintain adequate price incentives for the producers was compounded by a failure to relate the provision of scarce Government resources to priorities, notably that of raising productivity in the rural areas. Most important, experience in the FNDP period re-emphasised the vital interdependence of policies and priorities for urban and rural areas.

B. OBJECTIVES AND POLICIES

4. The principal objectives of the Second National Development Plan for the rural sector are:

(*a*) to improve rural standards of living and to create a self-reliant and progressive rural society;

(*b*) to create in the rural areas new employment and income opportunities and to improve those infra-structural services related to increased rural productivity, in order to counteract migration to the urban areas;

(*c*) to increase the contribution of the sector to the GDP and to promote the diversification of the economy;

(*d*) to develop self-sufficiency in staple foodstuffs and to reduce the growing dependence on imports of higher value commodities;

(*e*) to improve nutritional standards by means of increased production and consumption of protein and protective foods for local rural consumption rather than merely as cash crops.

5. The policies underlying the Plan's provisions for achieving these objectives are:

(*a*) to maintain consistent and co-ordinated policies, aimed at balanced and accelerated rural development and at encouraging self-reliance;

(*b*) to apply scarce resources particularly capital and skilled manpower—to those developments promising to be most productive, removing key constraints to the optimum use of those resources;

(*c*) to concentrate efforts by developing and following a system of production priorities, related to the Nation's needs, to the needs and capabilities of particular areas and to the availability of resources;

(*d*) to ensure and maintain fair prices for agricultural products, inputs and consumer goods in the rural areas;

(*e*) to improve extension, marketing, processing, storage, input supply and credit services to the agriculture, forestry and fishery industries;

(*f*) to extend the use of effective low-cost inputs, encouraging economic, labour-intensive techniques.

(g) to promote the long-term development of family farms as the basic unit of production, supported by viable marketing and supply co-operatives; at the same time to give every encouragement to the growing number of Zambian commercial farmers and to the expatriate commercial farmers;

(h) to create, within the rural areas, Intensive Development Zones, as a valid alternative to migration to the towns.

6. Several constraints still bedevil Zambian agriculture, two of which are likely to continue well into the eighties. The first is the almost complete lack of training facilities for Zambian senior technical and professional staff which, on the eve of the SNDP, still leaves the country heavily dependent upon expatriate staff in these crucially important categories. It may be mentioned in this connection that such Zambian staff as have been trained in the institutions created since Independence have been obliged to assume functions in which they have had all too little opportunity to acquire experience.

7. During the SNDP, special provision will be made for further in-service training of staff whose capabilities are not yet fully realised, and also to permit increased intakes of new trainees. Every effort will be made during the next five years to retain the services of experienced Zambian and expatriate personnel and to recruit additional key personnel under bi-lateral and multi-lateral technical assistance programmes.

8. The second constraint referred to arises on the one hand from Zambia's relatively small internal market, and on the other from its land-locked position and extended lines of land communication to the sea. Despite improvements in transport and communications since Independence, distance from markets also remains a serious constraint for the outlying Provinces and this adds to the difficulties of improving the terms of trade between the rural and urban sectors. In terms of self-sufficiency, therefore, priority must be given to products with low value/weight ratio, whereas, in terms of exports, if long-term subsidies are to be avoided, either low-cost production techniques must be developed or Zambia's exports from the rural sector must concentrate upon products with a high value/weight ratio.

C. PRODUCTION PROGRAMME AND POLICIES

Agriculture—General

9. *Overall targets*. National targets for marketed production are indicated in Table II—1 showing the increase which those targets represent over the 1970 levels of marketed production.

Table II–1—Production and Demand 1969–76

	Unit	Estimated Demand[1]		Marketed Production		Projected Production	
		1969	1976	1969	1970	1976 low	1976 high
Maize[2]	MT	301,000	550,000	253,140	124,370	550,000	600,000
Rice	MT	4,350	8,000	270	300	2,400	2,800
Sorghum (malting)	MT	3,200	n.a.	1,180	530	1,800	2,300
Oil Seeds:							
Groundnuts[3]	MT	n.a.	n.a.	7,820	3,270	10,000	12,000
Vegetable oils[4]	MT	9,000	15,500	90	30	6,000	8,000
Raw Sugar	MT	46,700	95,500	30,400	40,100	73,000	77,000
Fruit[5]	MT	8,600	13,000	3,100	4,500	8,000	10,000
Vegetables[5]	MT	n.a.	n.a.	17,000	20,000	35,000	40,000
Tea	MT	620	950	nil	nil	40	50
Coffee[6]	MT	70	110	5	10	100	120
Beef	MT	19,000	30,800	8,800	11,800	15,000	17,000
Pork and Bacon	MT	2,360	3,500	930	1,150	3,100	3,500
Poultry:							
Dressed	MT	5,170	9,000	5,170	5,440	9,000	10,000
Eggs	'000	93,000	145,000	93,000	99,000	145,000	165,000
Milk[7]	'000 l	27,600	47,800	16,200	15,300	30,000	35,000
Tobacco:							
Virginia	MT	1,000	1,630	5,020	4,790	9,000	13,000
Burley	MT	—	—	240	250	600	900
Seed Cotton	MT	n.a.	12,000	6,920	5,610	11,000	12,000
Kenaf	MT	—	5,000	nil	50	2,000	3,000

NOTES:

[1] Estimated demand includes requirements for stockfeed and for brewing purposes.

[2] Figures for groundnuts relate to confectionery and ration groundnuts.

[3] Production figures refer to oil produced from sunflower seed, groundnut, soya bean and seed cotton.

[4] Since there are no records of demand and production for fruit and vegetables, figures shown are very tentative. The apparent shortfall in production will consist largely of off-season imports.

[5] Figures for demand relate to pure coffee and exclude instant coffee.

[6] Demand includes fresh and reconstituted milk, while production includes fresh milk only.

[7] Domestic demand for marketed produce only.

10. Although the level of effort and investment required to achieve the increases planned for the SNDP period is not by any means uniform as between different commodities and, in the case of commodities such as beef and milk, development initiated in the period will not start to show substantial results until after 1976, the targets shown give a general indication of priorities on a national level. The present programme of self-sufficiency in basic foodstuffs extends beyond the period of the SNDP. The timetable for the programme is presented in Table II-2.

Table II-2—Self-Sufficiency Indicators

	Self-sufficiency achieved by:			
	1972	1976	1981	After 1981
Maize	X			
Rice			X - - -	- - - X
Sorghum (malting)	X			
Oilseeds:				
Groundnuts[1]	X			
Vegetable Oils			X	
Raw Sugar		X - - -	- - - X	
Fruit[2]			X	
Vegetables	X			
Tea				X
Coffee[3]			X	
Beef				X
Pork and Bacon		X		
Poultry:				
Dressed	X			
Eggs	X			
Milk				X
Tobacco:				
Virginia	X			
Burley	X			
Seed Cotton	X			
Kenaf			X	

NOTES:

[1] Excludes groundnuts for oil extraction.

[2] Self-sufficiency in bananas has been achieved. Self-sufficiency should be achieved in citrus fruit by 1981, but deciduous fruit cannot be grown in Zambia.

[3] Pure coffee (arabica) only; excludes instant coffee.

11. The overall economic target of a 4 to 5 per cent average annual growth in *per capita* income in the rural areas during the SNDP, together with an increase in aggregate marketed output of about 50 per cent, might well be achieved by a concentration of effort adjacent to the line-of-rail and in a few selected areas elsewhere. However, increases in self-sufficiency and in average *per capita* incomes must be accompanied by a significant improvement in production, consumption, cash incomes and employment in the remoter rural Provinces.

12. The development of a system of production priorities is a central feature of the SNDP. During the SNDP, therefore, a system of crop priorities will be introduced which will take account of national priorities, regional, provincial and district production and market potentialities, as well as the social and economic position of the Provinces. In the establishment of such priorities, the first consideration, however, will be optimal land-use, based upon soils and climate, which, together with communications and access to market, will express comparative advantage.

13. The simplest application of the crop priorities system will be as an indicator to farmers, backed up by extension and appropriate producer prices and subsidies. Its more direct influence will be felt in the allocation of development resources by Government itself, either in the form of additional infra-structural facilities or special measures to participate in production. The adoption of crop and livestock priorities means that some commodities will inevitably have lower priority than others. Where skilled manpower is critically short, this means that research, extension and investment to promote some commodities will have to take second and third place—or may have to be postponed indefinitely. This must be accepted at all levels if the underlying objective of increased productivity from the land is to be achieved.

14. The following general points will apply to the country as a whole and/or to each Province, as indicated:

(*a*) The production of staples such as maize will be undertaken as close as possible to the point of consumption. This means that each Province will be encouraged to increase its level of self-sufficiency, including the provision of adequate storage.

(*b*) In view of the geographical constraints referred to above, under Objectives and Policies, the policy for agricultural exports will give priority to the development of the tobacco industry, in particular flue-cured Virginia tobacco in suitable areas throughout the country. This crop is particularly suited to smallholder or family farm production within integrated service schemes, from which a growing proportion of total output will come. Opportunities for the export of maize, poultry and eggs, as well as fruit and vegetables, to neighbouring markets to the north will be explored, and traditional exports of confectionery groundnuts will be expanded.

(*c*) All Provinces will be encouraged to increase production and local consumption of protein and protective foods, including pulses and livestock products, and, where ecological conditions are favourable, of oil seeds. The production of perishable fruit and vegetables for the major urban markets of the line-of-rail will be concentrated in areas within reasonable access, so as to avoid unnecessarily high transport costs and wastage, but production in the remoter rural areas will be geared to the expanding markets of provincial and district centres and local institutions, as well as to encouraging far greater consumption amongst producers themselves.

(*d*) Efforts will be made to increase the share of small-scale producers, including co-operatives and under-employed people in the peri-urban areas, in the production of high value products such as poultry, eggs, fruit and vegetables. This will involve some limitation in the expansion of large-scale production of those commodities, although this must be accompanied by a general reduction in current prices, which are unnecessarily high, if the market for those protein and protective foods is to be increased as it should be.

(*e*) The large-scale production of oil seeds, sugar, kenaf and possibly wheat to meet national needs will be undertaken in those areas where circumstances are most favourable and, until the economics and techniques of Intensive Development Zones have been fully established, expansion into less favoured areas to create additional employment or increased incomes will not be undertaken.

(*f*) Development of the livestock industry will take simultaneous account of the need both to intensify production and improve off-take in those areas where production is well established and from which the greatest contribution can be expected in the near future, as well as to establish cattle and small-stock production in those large areas of the country where, for historical reasons and or the prevalence of the tsetse fly, livestock production is as yet negligible. In the latter areas particular emphasis will be placed upon the introduction of draught oxen required to increase arable production. A degree of regional specialisation will also be developed in regard to breeding, growing out and fattening of cattle with provision for transfer of immature stock from over-stocked to under-stocked areas.

15. Quite apart from the general constraint of financial resources, the general scarcity of skilled manpower requires that direct State involvement in production should not take place at the expense of the staff resources required to promote production in the private sector; this is generally less capital-intensive and, in the long run, must provide the backbone of Zambian agricultural development and of employment in the rural areas. During the SNDP, therefore, private sector production will be emphasised and large-scale production by the State will be confined to filling any gap which may exist in the achievement of national self-sufficiency in basic foodstuffs, together with the special crops referred to and such high value products as beef, milk and oil seeds for which demand, and with it imports, have been increasing rapidly. The large-scale, commercially orientated production by the State will be carried out under the Rural Development Corporation, while pilot schemes will be undertaken by the Projects Division. Such large-scale State production will not be allowed to compete for land, resources or markets with the development of economically sound family farming.

16. For the commercial sector, including the increasing number of Zambian commercial farmers, emphasis will be on the removal of constraints and on the provision of basic services such as access to credit and supplies of inputs, together with appropriate prices for agricultural produce, and extension services, backed by research, orientated to special crops, mechanisation and farm management. For the commercial sector, therefore, the development programme will be largely *indicative*.

17. Reference should be made to the chapter dealing with Manufacturing, which gives details of certain vertically integrated *agro-industries* not considered in this chapter. It is intended to establish, in areas of maximum potential, estates linked to processing facilities.

Each estate or outgrower scheme will, where possible, act as a nucleus for small-scale producers of the commodity, while ensuring a steady supply of raw materials to the processing plant in sufficient quantities to maintain an economic throughput. The nucleus production and processing facilities will be established in certain cases by the Rural Development Corporation and in others by subsidiaries of INDECO. Where appropriate, agro-industries will be located in Intensive Development Zones.

18. In the SNDP the policy will be to establish only such *agricultural settlements* as are based upon increased productivity and the prospect of self-reliance. In most cases, this presupposes the provision of resident management services. This policy will be elaborated and its implementation co-ordinated by a Standing Committee in the Ministry of Rural Development. Settlements will include—

(*a*) schemes for encouraging people from the subsistence sector to establish more productive units, including youth training;

(*b*) schemes for settling peri-urban squatters in agricultural production;

(*c*) medium- or small-scale commercial farming projects, including out-growers' schemes based on State enterprises.

Wherever possible, the basic settlement unit will be the family farm, with communal or co-operative activity where appropriate. Settlers will participate in establishing their farms to provide a greater degree of involvement and self-reliance, and to avoid the burden of heavy debts at the outset. Government subsidies will be limited to the provision of essential infra-structure.

19. *Intensive Development Zones* (IDZs) will be established in various parts of the country to become focal points for the concentration of rural development resources in areas of maximum development potential. Designated Zones will be defined areas of high natural potential, within which priority will be given to infra-structure and integrated services leading directly to increased productivity. A more detailed presentation of this programme is given under Regional Development.

20. Government *pricing and subsidy policy* for rural producers will be based on the relative priorities attached to different commodities, on a full economic assessment of production costs and incomes for large, medium and small producers, considering the relative profitability of different crops, and on marketing costs. Pricing policy will also take account of the terms of trade between the rural, industrial and other sectors. Prices and subsidies laid down will be subject to regular review, to take account of changing production costs and market developments, but greater emphasis will be placed upon subsidies which directly promote increased productivity.

Commodity Programmes

21. *Maize.* The immediate aim in the SNDP is to secure permanent self-sufficiency, and to establish a national reserve of at least 180,000 tons (2 million bags). Since production above the level of self-sufficiency and stockpile requirements will involve either export at below cost price or relatively uneconomic secondary utilisation, great emphasis will be given, after attaining self-sufficiency, to diversification of cropping systems to introduce new crops required. Efforts will continue to increase the efficiency and thus reduce the cost of maize production. The national reserve will be stored in strategic areas, to reduce the risk of local shortages, but, as far as possible, the aim will be to secure regional self-sufficiency to minimise transport costs.

22. The production programme is based on demand estimates calculated to provide for all reasonable contingencies. Human consumption is expected to continue to rise at about 7·5 per cent per annum, slowing to about 6 per cent per annum after 1975, so that demand in 1976 will be 522,000 tons, compared with 396,000 tons in 1972; in addition, stockfeed requirements are estimated at 31,000 tons in 1976. The estimates refer to the line-of-rail alone, since the subsistence sector and the outlying areas provide for themselves in normal years.

23. Plan programmes are intended to promote maize production at all levels. The traditional sector will be assisted through the extension services, with particular attention paid to improving the availability of inputs, together with credit and marketing services. Special effort will be concentrated in Intensive Development Zones (IDZs). Settlement schemes will be promoted on a carefully selected basis to establish commercially viable family farming. These will be included under the IDZ programme, under a World Bank-assisted crop and livestock programme, and also under the Tobacco Board of Zambia (TBZ). Assistance to the

commercial sector will be concentrated under the World Bank Programme, providing investment credit and technical services. IDZs will also concentrate services to emergent commercial farmers, as will special schemes such as the TBZ's Assisted Tenant Farming Programme. Large scale participation in commercial farming, such as by Zamanglo and the Commonwealth Development Corporation, is also likely to be expanded in partnership with Government. Government will also continue direct production of maize, chiefly through the Rural Development Corporation, in addition to settlement schemes referred to above.

24. Marketed production, under present and proposed programmes, is judged adequate to meet demand and to provide for sufficient national reserves. It is estimated that, in the short run, production in the traditional and commercial sectors will not match demand and, with projects already under way, the relative contribution of State production will increase. However, Government and para-statal crop production capacity will be adjusted in accordance with national crop priorities, so as to diversify production as soon as possible into other essential commodities such as oil seeds and livestock.

25. *Rice.* Rice for local consumption is now produced in small quantities in Western, North-Western, Copperbelt, Luapula and Northern Provinces, but the urban market is met entirely by imports. Initially, the SNDP production programme will be concentrated in the Luapula Valley, where suitable conditions exist. An exploratory programme will also be undertaken in Western Province and subsequently in Northern, Copperbelt and North-Western Provinces. Specialised extension staff will be trained, and technical manpower initially provided under foreign aid.

26. The immediate targets are to have, by 1973–74, 3,000 farmers in the Luapula Valley cultivating an average of 0.4 hectares each, giving a total production of 1,760 tons of hulled rice. Rice will be encouraged mainly as a smallholder crop on an extension basis. No direct State production is envisaged, but some commercial farmers may cultivate on a mechanised basis. Production from all sources is expected to be 4,200 tons of paddy (2,800 tons hulled) by 1976. The bulk of additional production will be marketed along the line-of-rail. Government is considering whether to encourage small-scale processing close to the production areas, or at a centralised plant where quality control, important for consumer acceptability, would be much easier.

27. *Sorghum.* In recent years, sorghum requirements for malting have fallen sharply, as breweries substituted enzymes for sorghum malt. The SNDP market situation is uncertain, but, subject to this limitation, production of malting-grade sorghum will be continued, particularly in dry valley areas with reasonable market access, where it is one of the only cash crops that can be grown. New varieties will be introduced, both for malting and as subsistence crop in certain areas unsuitable for maize production.

28. *Oilseeds—confectionery and ration groundnuts.* Steps will be taken to improve marketing of Eastern Province confectionery nuts; the relatively high export price obtained for them makes their diversion to the domestic vegetable oil market less advantageous economically, but, to improve incentives, it must be more fully reflected in the price paid to the producer. In line with the objective of increasing consumption and production of protein foods throughout Zambia and to improve producers' returns, extension effort will be applied to improved husbandry and varieties, backed by continuing research. Surpluses produced beyond requirements for household consumption, export or the ration groundnut trade will be used for oil extraction, with marketing organisations offering a better incentive price. Subject to local conditions and research findings, soya bean production will also be encouraged to improve nutrition.

29. *Vegetable oils.* High priority is given to oil seed production, in order to substitute domestic for imported oil. Until 1969, supplies of groundnuts for oil extraction, comprising the surplus of sub-export grade confectionery nuts from Eastern Province and small quantities from other Provinces, fluctuated sharply. With the poor harvests since 1969, and the establishment of Namboard as monopoly buyer on the line-of-rail, offering an insufficient incentive price, supplies have been negligible.

30. With the very rapid increase in demand to a level well beyond the supply potential of small-scale groundnut producers alone, it is intended to widen the sources of production during the SNDP, in terms of both oil seed types and scale of producer, with the objective of achieving self-sufficiency by 1981 or shortly after. Oil seeds produced will include groundnuts, sunflower, soya and cotton seed. With groundnuts, while there is scope for improved prices, low yields, traditional production practices and peak labour requirements are constraints. For

cotton, with present production providing self-sufficiency in lint, a large increase in production for seed alone cannot be justified, although the supply of cotton seed oil will be exploited by the establishment of processing facilities.

31. Therefore, subject to pilot production results, it is intended to introduce sunflower and soya production by para-statals and by both large- and small-scale producers. The establishment of extraction facilities for the new oil seeds will allow an incentive price to producers and will produce good-quality, low-cost oilseed cake for stockfeed.

32. *Sugar.* Sugar consumption is expected to rise very rapidly to 95,000 tons of raw sugar in 1976. The Nakambala Estate is being expanded to produce some 75,000 tons in 1976. If no further expansion proves possible, a second estate will be established, and, depending upon the availability of a suitable site, with adequate soils and water and with good market access, the new estate will be located in a different Province.

33. *Fruit.* While the aim is to increase both production and consumption, this aim will be pursued with the closest attention to locating production near consumption centres, because of high transport costs and perishability, and to the avoidance of local and seasonal gluts and shortages. The market intelligence system will be radically improved to develop demand and to tailor production to such demand.

34. National and local production priorities vary according to type of fruit. High national priority is given to citrus production, which will be developed for the fresh fruit market, for subsistence and also for processing. Citrus nurseries will be established in all Provinces, to supply farmers with trees. Some large-scale production units being planned will augment supplies from existing commercial sources. While no major expansion of acreage can come into production before the end of the period, self-sufficiency should be achieved by 1981.

35. Production of bananas, which is also a priority, has greatly increased with the establishment of the State Mununshi and Chiawa schemes, so that imports have virtually ceased. Attention will be given to increasing the participation of small-scale growers in such schemes and to expanding the market, with improved and less costly ripening and handling to reduce prices and improve quality. Pineapples have a lower national priority, though important in Mwinilunga District, where the need is for higher yields and quality, with more concentrated and lower cost production. Other fruits, also with lower national priority, will be promoted locally to improve nutrition, by means of consumer education, extension advice and improved availability of planting material.

36. *Vegetables.* Policy is to encourage greater, although better quality production, in order to satisfy dietary needs and achieve domestic self-sufficiency, while avoiding seasonal and localised oversupply and shortages and minimising Government marketing subsidies. This requires a very much more market-orientated approach to production and the reconciliation of prices at levels that the mass of the population can afford but which are adequate to stimulate required production.

37. The perishability, vulnerability and relatively low value/weight ratio of vegetables make location of production very near the market essential. Moreover, nearby producers have better market intelligence and can harmonise production and delivery with market conditions. Producers of perishables must learn to accept that some spoilage is unavoidable, while retailers must learn to adjust their prices to meet changing market conditions.

38. Emphasis will be on encouraging self-reliance, with producers and the wholesale/distributive trades maintaining a continuous exchange of market information, leaving it to Namboard to provide market intelligence at National and Provincial level for those perishables whose importation is its responsibility. While Namboard will be responsible for residual storage of potatoes and onions, the marketing system for other vegetables will be based on speed of handling, not storage. Apart from onions and potatoes, vegetables cannot by their nature be economically stored long enough to even out changes in supply. Namboard will limit its retailing activities to maintaining a few outlets to provide flexible price leadership based on market conditions.

39. *Tea.* Tea production centred at the Government Kawambwa estate, will begin in 1973–74 and it is planned to install a tea factory on the scheme by then. A very high level of management and capital expenditure is required to establish tea production in Zambia, where conditions for growing are marginal and irrigation is required. The present scheme includes a nucleus estate, to be fully planted by early 1974 and in full production by 1981–82. Depending on production results, a further area may be developed for outgrower production.

40. *Coffee.* Total national coffee consumption in 1969 was some 400 tons, but that of pure coffee was only seven tons, the balance comprising instant coffee and robusta coffee/chicory blends. Including the pure coffee and the robusta used in these blends, total consumption of coffee, excluding instant coffee, was seventy tons. Robusta coffee production is not technically feasible in Zambia, and instant coffee processing is uneconomic. Therefore, production will be limited to arabica for the domestic market and a small surplus for export. Production from the Ngoli scheme, in Kasama District, is projected at about seventy tons by 1976, and that from traditional small growers in Isoka District at about forty tons. The possibility of further plantings in the Northern and perhaps North-Western Provinces will be investigated, but these would not materially affect production in the SNDP.

41. *Beef.* The main objectives in the SNDP are to build up the national herd, to improve quality and to increase off-take and the commercialisation of livestock management. Beef production from domestic sources should increase to between 15,000 and 17,000 tons by 1976—an increase of 30 to 45 per cent over the Plan. Self-sufficiency is not likely to be achieved before 1981.

42. Beef production in Zambia—measured by sales through institutionalised marketing channels—still falls far short of demand, and about 40 per cent of the country's demand in 1970 was imported. Local production declined steadily from 12,600 tons in 1964 to 8,800 tons in 1969, but rose again to 11,800 tons in 1970. Consumption in 1969 was 19,400 tons and is expected to rise to 30,800 tons by 1976.

43. The national herd is small for a country the size of Zambia, much of which is well suited to livestock production, and is unevenly distributed. It is divided into two distinct groups: the traditional and commercial herds. Off-take from the traditional herd of some 1.5 million head is only about 3–4 per cent, plus a further estimated 2.5 per cent for subsistence consumption in the rural areas, while that from the much smaller commercial herd, which accounts for about half the total marketed production of beef, is some 17 per cent.

44. The SNDP policy is to increase the overall size of the traditional herd, and at the same time increase off-take, but to give emphasis to those large areas of the country, e.g. the Northern, North-Western and Luapula Provinces where cattle density is very low, largely due to the prevalence of tsetse fly. The latter means that the tsetse control programme during the SNDP will be carefully geared to the development of livestock and mixed farming programmes in these, as in other areas. Although no major changes in traditional attitudes to cattle can be expected in the short run, in some areas there are already indications of a response to long-term extension efforts. The SNDP will therefore continue to give emphasis to animal health to reduce mortality and improve calving and growth rates, and to improve management and grazing systems. Rural cattle sales will be further developed, particularly in the Western Province where the new abattoir at Mongu is expected to be in operation by the end of 1972.

45. In addition, several programmes will be pursued in the SNDP to involve more traditional producers directly in commercially-orientated projects. These include collective ranches, managed grazier schemes, the National Beef Scheme and mixed farming settlements.

46. The commercial herd is predominantly in private hands, although State ranches account for an increasing part. Stock on commercial farms decreased after Independence through uncertainty over long-term prospects and the sale of breeding animals for slaughter. The position is now improving, however, and will be further improved during the SNDP through the provision of selected subsidies on physical inputs, investment credit and guaranteed forward prices for beef.

47. State production units include eleven ranches under Zambia Cattle Development Limited, a subsidiary of the Rural Development Corporation, and two under the Projects Division of the Ministry of Rural Development. The viability of purely ranching enterprises is still in doubt, so that some of these may be diverted to mixed farming enterprises, such as the Nyama Farms complex, run by Rural Development Corporation with assistance from the African Development Bank. As well as producing commercial beef, these State enterprises should, when fully stocked, supply weaner, breeding and fattening stock to both the commercial and traditional sectors.

48. *Pork and Bacon.* Zambia at present imports about 50 per cent of its pork and bacon requirements, which should be replaced locally in the SNDP. The main emphasis of the pig production programme is on increasing the participation of small-scale Zambian farmers, with continued encouragement to commercial farmers and some para-statal participation.

49. Integrated pig management schemes are being established for small-scale producers near the line-of-rail. Three had been established by 1971 and up to four more may be implemented in the SNDP, operating on a fully commercial basis and providing training, management, extension and marketing services to members.

50. Breeding stock will be available from a breeding/research unit to be started at Kcembe, with some from the Rural Development Corporation's 500-sow baconer unit.

51. Producer prices for pigs will be kept in line with import parity prices and with production costs, while at the same time greater efficiency will be pursued. Steps will be taken to ensure timely availability of inputs.

52. Special emphasis will be given to developing the supply potential of Eastern Province pigs. While in the past the prevalence of African Swine Fever has been a barrier to exporting meat to the line-of-rail, the establishment of processing and heat treatment facilities will make such export possible. For other outlying Provinces, emphasis will be on encouraging production for local markets. The Zambia Pork Products processing plant in Lusaka will be expanded and modernised.

53. *Poultry.* Since Independence the poultry industry has grown very rapidly, eliminating the need for imports and catering for a strong increase in consumption. The aim for the SNDP is to develop production in line with the currently lower rate of increase in consumption, to strengthen the participation of small- and medium-scale producers, to improve marketing and input supply services, and to extend the production and consumption of poultry products in rural areas. Export opportunities, although rather limited, will be developed and particular attention will also be given to improving the quality and supply of feeds and to controlling costs.

54. *Poultry-Meat.* While Zambian small-scale producers supply the urban markets for live poultry, the supply of dressed poultry is predominantly in the hands of larger producers. An improvement in the quality of dressed birds supplied to the market and a fuller participation by small/medium-scale producers will be achieved with the progressive establishment of poultry processing facilities to serve the main urban areas. Production and consumption of poultry meat in the rural areas will be further encouraged with the establishment of provincial hatcheries. Until now, such production has been on a small enough scale for chicks to be delivered by air from the line-of-rail.

55. *Poultry–Eggs.* Emphasis will be on improving the supply of inputs and on encouraging smaller-scale producers to orientate their output as closely as possible to the needs of the market, by careful location, by attention to changing market conditions and by developing existing and future co-operative organisations concerned with egg production and marketing on a viable basis, with professional management to market the eggs produced. Government extension and market intelligence services will assist producers in evening out seasonal and localised gluts and shortages.

56. *Milk.* In view of recent increases in unit costs of imported milk products and the rapid rise in urban consumption, high priority is attached to developing production of milk, which declined by about 20 per cent during the FNDP, with the reduction in numbers of expatriate dairy farmers and rising production costs. Since 1966 the gap between milk production and demand for liquid milk has been steadily widening, the shortfall being made up by the reconstitution of imported ingredients. The actual level of demand in 1976 will be strongly affected by Government's milk consumer subsidy policy, which has swelled the demand for milk. However, assuming some increase in consumer price leading to a medium growth in consumption, demand in 1976 is expected to be about 48 million litres, compared with 1970 production of some 15 million litres.

57. For the urban markets, Government dairy schemes already begun but not yet in full production include five farms run by the Rural Development Corporation subsidiary, Zambia Cattle Development Limited, (ZCDL), with two Tenant Dairy Schemes and Kafubu Dairy at present under the Ministry of Rural Development. The ZCDL dairies are due to be in full production by 1974 and aim to produce a total of some 8.2 million litres by 1976, while the due expansion of the two Tenant Dairies to a membership of forty farmers each should result in production of 4.5 million litres by 1976, and Kafubu Dairy, with the addition of a second phase, will produce 2.3 million litres by 1976.

58. Production from the commercial sector is projected to rise to about 16 million litres by 1976. This increase is dependent upon a rise in the producer price for milk, a review of subsidies and the early implementation of the large-scale crop and livestock credit programme

which it is intended to undertake with the aid of the World Bank. A further major source of milk, expected to produce 3.6 million litres by 1976, will be the dairy established by the Zamanglo group. On these assumptions, total production from State, para-statal and commercial farming is expected to be as high as 35 million litres by 1976.

59. Consideration is being given to establishing up to ten more dairy units under the RDC and, according to results with the existing schemes, further Tenant Dairy Schemes may be established if a lower-cost basis can be devised. Any major expansion in output by para-statal or commercial dairies depends critically upon the availability of stock and further imports will be required to implement the programme. Intensive efforts will also be made to increase output from small-scale producers for urban and provincial markets, by expanding the Rural Milk Production Scheme—originally designed to promote production for rural markets—to line-of-rail areas.

60. The five existing Provincial dairies will be expanded to meet increasing local demand. At village level the Rural Milk Production Scheme will be further expanded to provide additional low-cost milk. Furthermore, UHT milk, produced by the Dairy Produce Board in Lusaka, will be made available in those rural areas where transport costs are not prohibitive.

61. *Tobacco.* As Zambia's most important agricultural export, and as a commodity well suited to small- and medium-scale production, tobacco has a high priority in the SNDP, depending upon world market conditions. With this proviso, a major expansion is projected for Virginia flue-cured tobacco and Burley tobacco. Owing to world price trends, production of Oriental tobacco is being phased out.

62. Strenuous efforts are to be made to improve the supply of tobacco requisites, credit and other services to tobacco farmers. It is recognised that the efficiency of their supply, bearing in mind the comparative attraction of maize production, will have a crucial effect on tobacco expansion.

63. *Virginia.* Government has already introduced a subsidy on fertiliser, barns and, most important, in 1970 a guaranteed average producer price in order to encourage increased production by existing and new growers. It is intended that an increasing proportion of output will come from producers in schemes supported by World Bank assistance and supervised by the Tobacco Board of Zambia. About 40 per cent of the 1970 crop was produced on TBZ schemes, and it is expected that this proportion will rise to almost 80 per cent by 1976. Depending on market prospects, the TBZ training programme will be expanded, continuing to train Zambians to a stage where they can manage a medium-size commercial farm and be settled as Assisted Tenants under TBZ supervision, growing between eight and sixteen hectares each. The Tenant Farming Scheme, under which TBZ leases farms of some 200 hectares to experienced Zambian and expatriate farmers, will also be moderately expanded.

64. More important emphasis, however, will be given to the Family Farm (One Acre) Scheme, which was begun in 1969. This programme is based on cultivation by farmers of 0.4 hectare of tobacco and 0.8 hectare of maize, with full services established for each scheme, some of which may form part of IDZs.

65. *Burley.* The future of the Burley tobacco programme depends critically on the successful extension of private treaty contracts for the sale of the crop. While Burley is easier to grow and cure than Virginia tobacco, world demand is relatively limited and over-supply in the recent past accounted for the lower prices which reduced the average return to producers to relatively unattractive levels. Some soils in Zambia are better suited to Burley than to Virginia and, depending on future market trends, Burley will be encouraged in such areas. A tentative target is, therefore, set at 900 tons.

66. *Cotton.* The large increase in seed cotton production since 1964 has been achieved almost entirely by the growth in smallholder output, during a period when production by commercial farmers declined. A major integrated extension programme and a steadily rising producer price were the major factors in popularising the crop amongst small scale producers.

67. The relatively modest projected increase in output—2,000 tons more in 1976 than in 1971—is based on market limitation, rather than on the capacity in Zambia to expand production. Lint is supplied to Kafue Textiles, whose requirement in 1976 is expected to amount to no more than the equivalent of 12,000 tons of seed cotton. At present prices to the producer, which provide the grower with a good return, subsidies are required to export any surplus above the requirements of Kafue Textiles. There is already a major subsidy required to meet the difference between the cost of running Namboard's ginneries at Lusaka and Chipata and the price paid by Kafue Textiles for lint, since this price is based on export parity.

68. Within the production limits imposed by the internal market, extension and research will continue to be applied to raising yields and improving the efficiency of production. It is intended to introduce additional higher yielding varieties to increase producers' incomes and meet the various requirements of Kafue Textiles.

69. While ginning capacity in Chipata is adequate for the SNDP period, some expansion in the capacity of the Lusaka ginnery will be required, together with further cotton seed delinting capacity. The utilisation of cotton seed, together with other oil-seeds, is considered above.

70. *Kenaf.* Fibre requirements for bags and hessian at Kabwe Industrial Fabrics, when in full production at its established capacity, are 6,500 tons per year. By substituting imported short fibres by locally produced long fibres, thus reducing bag weight, requirements are reduced to about 4,500 tons. About 100 hectares of kenaf are being grown by Projects Division in 1971–72. Thereafter, production will be expanded, concentrating on supplementary irrigation to extend the harvesting and processing period and to stabilise yields, at the same time allowing production of wheat, barley, maize and other crops in rotation with the kenaf with possible involvement of out-growers.

71. *Minor Commodities and New Crops.* The need to diversify the agricultural and livestock sector is recognised, and the major crops dealt with above do not represent an exclusive list of Government priorities. Additional crops are being tested and evaluated and may be developed on a national scale as and when research and evaluation demonstrate their potential. Available resources cannot be unduly dissipated, however, and for this reason a crop and livestock priority programme will be maintained.

Fisheries

72. For fisheries, the potential for increased production from the major rivers and lakes, allied to improve marketing, storage, distribution and credit services, is such that priority will be given to developing the off-take from these sources rather than to the establishment of fish-farming, other than on a pilot basis. In some fisheries, which have been intensively investigated, the evidence indicates that the harvest could be up to three times the level of that being caught today. There is also an adequate manpower force living at the fisheries to undertake the increased harvesting and fishing technology has developed to a stage where suitable methods of harvesting are available.

73. The principal objectives for fishery development during the SNDP are:

(*a*) to achieve a harvest of 55,000 tons of fish by 1976;

(*b*) to establish an effective marketing organisation to enable fish to be made available in some form to consumers throughout the country;

(*c*) to improve fishing equipment and techniques; and

(*d*) to produce better quality fish—fresh, frozen and dried—as a valuable protein source.

74. The provision of water transport facilities, small fish-processing factories, improved access roads, channels through swamps, ice plants and the establishment of a more realistic price structure are also key elements in the aim of increasing supply to 55,000 tons by 1976, and improving quality of fish and of raising the standard of living of the country's fishermen.

75. The strategy for fish marketing and production will be dependent on the fishery resources and demand situation of each Province. With its scattered population and long distance from markets, the Western Province will concentrate on achieving self-sufficiency in fish during the SNDP. North-Western Province, with only minor lakes, dams and fish-ponds, will be a net importer of fish, as will be Eastern, Copperbelt and Central Provinces. Southern, Northern and Luapula Provinces will be net exporters of fish.

76. Fish farming, combined with vegetable and duck poultry production, will continue to be developed in suitable areas on a pilot basis, and will be supported by improvements in the fish culture extension service. The Rural Development Corporation is exploring the feasibility of establishing a large commercial fish farm.

77. The Fishing Craft Section will continue with the design of fishing craft for all fishery areas. Work on developing new fishing and fish processing techniques will be intensified.

Forestry

78. The Forest Department's primary responsibility is the management of forests and plantations to produce timber, with felling, conversion and marketing of timber being the responsibility of the timber industry. It is, however, clear from experience in the FNDP that the Department must retain or develop such felling, conversion and marketing resources as are necessary to ensure that the output of the plantations is fully and properly utilised. Forestry projects for the SNDP include:

(*a*) the further development of the Industrial Plantations of Copperbelt Province, including the establishment of a further 12,000 hectares of plantations to give a total area under plantations of 22,000 hectares by 1976 and including a build-up in timber production to a figure of about 100,000 cubic metres a year;

(*b*) the establishment near Kitwe of Phase I of an integrated complex associated with the Industrial Plantations and comprising pine and eucalyptus sawmills, a block-board mill, a particle board mill and, subject to further study, a fibre-board mill;

(*c*) further studies in connection with the subsequent establishment of Phase II of the complex, expected to consist of a pulp-mill to produce about 100 tons a day of unbleached pulp grades;

(*d*) the continued management of Western Province timber concessions to supply about 70,000 cubic metres a year of Zambian Teak (*Baikiea plurijuga*) and Mukwa timber for internal and export markets;

(*e*) the continued management of indigenous Forest Reserves and Protected Forest Areas in all districts under long-term plans to provide timber, poles and fellwood both for present and future requirements, as far as these requirements can be met from indigenous forests, and provide protection to the land against flooding and drying up of rivers, and against soil erosion;

(*f*) the planned utilisation of indigenous timber outside the Forest Reserves and Protected Forest Areas to ensure, where practicable, that usable timber which would otherwise be wasted or destroyed is utilised;

(*g*) the further development of plantations on a provincial or district basis to supply wood which would be better supplied from such plantations rather than from indigenous forests or from the Industrial Plantations or from farm woodlots or plantations;

(*h*) the development and management of sawmills and timber depots associated with provincial and district plantations, the supply of plantation timber to sawyers and timber merchants, and the provision of advice and assistance in connection with rural sawmills and forest industries;

(*i*) forestry extension work to provide advice and assistance with farm forestry and with tree planting, including the supply of trees for planting from Forest Department nurseries;

(*j*) the further development of beekeeping through research, pilot projects and extension work, particularly in the well-wooded Zaire border region, in order to produce more beeswax for export, to increase the production of honey for local consumption and, subject to further research, to develop commercial honey production.

79. In forestry, emphasis will be put on increasing national self-sufficiency in timber and forest products as far as this is technically and economically feasible, with the industrial and urban markets for timber and forest products supplied principally from large scale integrated forest industries associated with the main industrial plantations and indigenous forests. For the remoter rural areas there will, however, be a policy of maximum self-sufficiency in sawn timber and poles, linked to the development of small sawmills and forest industries in many districts. The supply of firewood and charcoal both for industries and for lower-income urban and peri-urban population will be maintained.

National Parks and Wildlife

80. The main objective of the National Parks and Wildlife Service during the SNDP will be to establish the new and comprehensive National Parks system on a firm basis, and to draw up and implement proper management plans for as many parks as possible. In addition, the service will continue to maintain control of the Game Management Areas, including safari hunting, to administer the existing and new zoological parks, to carry out game cropping as part of scientific management of National Parks, to control potentially harmful species where and when necessary, and to assist in conservation education.

81. A new command structure is to be established for the Conservation and Development Division of the Service, comprising, individually, Kafue National Park, Luangwa, Central Bangweulu, Northern, North-Western, Western, and the Musi-o-Tunya National Parks. The disposition of the Research and Management Division will be superimposed on this structure.

82. The Government intends to take over and expand two school camps for wildlife conservation education, which were established some years ago with the assistance of private organisations. As has been stated earlier in this chapter, there is an urgent need for the education of the public in conservation of natural resources, including wildlife.

83. A small zoological park is to be established at Chilanga. This will complement the bird, reptile and small animal park at Munda Wanga. It is intended, also, to establish the East Lusaka Zoological Park; this will be a recreational park, which will form an extra tourist attraction.

84. The office of the Conservator of Natural Resources is to establish a Natural Resources Training Centre within the complex of the East Lusaka Zoological Park. The Centre will provide Natural Resources education to the public with special reference to the schools and have facilities for the training of departmental staff.

D. SERVICES TO THE RURAL SECTOR

Extension and Farmer Training

85. The Extension Service, under the Department of Agriculture, exists to provide technical and managerial advice, instruction and supervision to all agricultural producers, other than those in specially organised settlement schemes where separate staff are provided for the purpose. The aim is to improve husbandry practices and efficiency with the two-fold object of increasing output from the agricultural sector and, perhaps even more important in the long-term, of establishing as many as possible of the rural population as self-reliant, fully participating members of a healthy and progressive rural society.

86. While aiming at greater output in the SNDP, through more effective and widespread use of physical inputs such as fertilisers, improved seeds and pesticides, it has been demonstrated that these must be preceded by the adoption of simple improvements in techniques, such as land preparation, crop spacing and timely planting, which, in themselves, can bring about substantial improvements in yield. Without such improvements, the greater use of physical inputs, while increasing costs, would lead to very little increase in output. The same principle applies equally to animal husbandry, where managed grazing, adequate feeding and protection from disease generally show a higher rate of return than investment in expensive material inputs and, in the same way, are prerequisite to this.

87. The availability of physical inputs in terms of time, place, price and type is important, especially for farmers who have already made the necessary advances in techniques, and further steps will be taken in the SNDP to improve the supply position in the rural areas. However, for the vast majority of the farming community the most vital requirement for many years to come will continue to be the instruction and advice provided by the Extension Service. For the most part this will involve personal contact for the farmer with extension officers and this in its turn means, essentially, staff and adequate transport. The first essential for the SNDP is, therefore, to do everything necessary to bring the service up to full strength, which is now estimated as 2,672 by 1976, including about 950 Commodity Demonstrators.

Table II-3—Extension Service Staff Position

Category	Actual 1965	Established 1970	Actual 1970	Required 1976
Professional Staff	22	77	35	88
Technical Staff	57	168	129	434
Field Staff[1]	652	694	564	1,200
Total	731	939	728	1,722

[1] Excluding commodity demonstrators.

88. The aim of bringing the Extension Service up to strength cannot be achieved in the first years of the Plan. The immediate necessity is, therefore, to use existing and newly recruited staff more effectively. In the SNDP, it is intended to approach this in several ways:

(a) The standard of extension staff is to be raised by continuing in-service training, with the grade of Commodity Demonstrator being gradually phased out as staff receive sufficient in-service training to up-grade them to the level of Agricultural Assistants.

(b) Farmer Training Centres and Farm Institutes, where farmers are brought to attend short specialised courses, are to be improved so that their facilities can serve a greater number of farmers; new centres are to be established only when existing ones have been brought up to standard.

(c) Local extension activities will be linked even more closely to Radio Farm Forums, so that more farmers may benefit from the agricultural broadcasting service.

(d) First priority for expanded extension services will be given to Intensive Development Zones. This does not mean that existing services will be diverted from other areas, but new resources will be concentrated first in areas of highest development potential where all other necessary facilities can also be made available.

(e) In all areas staff will be made more effective by ensuring that they are adequately housed, have adequate office space and transport, and are adequately supported by administrative services so that technical staff can devote as much time and energy as possible to genuine extension work.

(f) Transfers of staff between Provinces will be reduced as far as possible with a view to facilitating specialisation in the particular crop and farming systems most suited to the various ecological and economic zones throughout the country.

89. Effectiveness of staff will also be improved in the livestock sector by the development of existing and new schemes in such a way as to concentrate staff effort. These schemes take several forms, including the National Beef Scheme, the Rural Milk Production Scheme, the Integrated Pig Management Schemes and the Managed Grazier Schemes.

90. 'Open' Young Farmers' Clubs, with projects designed for primary school leavers already provide a tested basis for rural youth development. This programme will be developed by the appointment of Youth Extension Officers at the District level. It is planned to produce a national total of 9,000 young farmers over the period of the Plan, that is, an average of 240 per District.

91. Fishery extension services will be intensified in order that all fishermen may be taught new fishing and fish-processing techniques. Extension workers will select fishermen for further training. Fishery Development Committees and the registration of fishermen will assist the programme of extension work. Young Fishermen's Clubs will also be encouraged. The number of fishing units and co-operatives will be increased and workshops for the repair of fishermen's boats and engines will be established at strategic points in all fishing areas. Training of fishermen at Fishery Training Centres, with increased follow-up will be intensified. Fishery sub-stations will be improved. Throughout the development programme for each fishery, emphasis will be placed on the careful use of funds to ensure the maximum impact of extension services.

92. A broader base, generally, will be adopted for the training of extension staff so as to enable them to provide technical advice and services which take account more fully of the overall socio-economic needs of the area they serve and of the country as a whole. Extension staff should be able to assess the requirements of vital requisites, liaising with Namboard and other suppliers, to assist the Agricultural Finance Company with credit applications and processing and also to advise producers of market possibilities.

Credit

93. The establishment of the Agricultural Finance Company (AFC) in place of the defunct Credit Organisation of Zambia (COZ) showed the determination of Government to operate a business-like credit system providing for the financial needs of the farming community. The SNDP will ensure that its services are expanded to cover an increasing number of credit-worthy producers; that it has sufficient loan finance—subject to budgetary restrictions—to meet all reasonable requirements, including longer-term loans, and that efficiency, including the important administrative element, is progressively improved. Commercial banks are expected to increase their provision of credit to farmers in liaison with Government.

94. The AFC field staff will work as closely as possible with the Ministry extension staff to assist farmers to prepare loan applications and submit them in good time. Special attention will be paid to simplifying the credit system, such as by block applications for intensive management schemes and the authorisation of suppliers like Namboard and TBZ to issue certain supplies to regular customers under block credit from AFC. At the same time loans will only be issued for productive purposes, with realistic credit assessment and maximum expectation of loan recovery. The rate of collection of the outstanding COZ debts will also be speeded up on the basis of a fair debt recovery policy.

95. Loans to fishermen will be increased during the SNDP. The Agricultural Finance Company will administer fisheries loans on behalf of the Ministry of Lands and Natural Resources on an agency basis. This will depend largely upon the successful establishment of an efficient fish marketing system, which will be introduced in the SNDP.

96. As part of a five-year programme for the intensification of existing farms and reallocation of disused farms, Government intends, with assistance from the World Bank, to provide long- and medium-term loans to approved farmers for certain programmed developments. Included in the Mixed Farming Development Programme, under which credit from a project fund would be channelled through AFC, the commercial banks and the Cattle Finance Company, is the provision of a technical and farm management service to participating farmers, with other additional specialist staff and a programme for training Zambians in credit and farm management techniques. Large, small and medium farmers will participate in the scheme, with small and medium scale farmers being settled on abandoned or under-utilised farms and being provided with basic infrastructural developments and advisory services. At a later stage, similar developments are envisaged for extending the scheme to adjacent traditional farming areas.

Supply of Inputs, Marketing, Processing and Storage

97. Major emphasis is to be given to consolidating existing marketing facilities. At the time of Independence, statutory marketing facilities were, with few exceptions, confined to the line of rail. The Department of Co-operatives and Marketing was responsible for meeting the needs of the rest of the country, while co-operative marketing played a significant part only in the Eastern Province. During the latter part of the FNDP, the vital importance of agricultural marketing was given increased recognition, but the progress of the Co-operative Marketing Unions was marred by managerial inefficiency and undue dependence upon Government financial support. Also, the amalgamation of the Grain Marketing Board and the departmental services provided by the Agricultural Rural Marketing Board to form the National Agricultural Marketing Board was accompanied by a tendency for the new Board to undertake too much, particularly with the assumption of responsibility for the operation of a residual market and guaranteed prices for fruit and vegetables.

98. Steps have already been taken to strengthen the management of the Co-operative Unions, to orientate the priorities for co-operative development towards the improvement of marketing, supply and other services, and to evaluate the staff requirements of the Departments of Co-operatives and of Marketing so as to improve and co-ordinate the extension effort required to promote more effective co-operative marketing— possibly leading to a re-amalgamation of the two Departments. These policies will be pursued in the SNDP, along with arrangements to provide more specialised advice and co-ordination in the provinces, while improving market intelligence. Further improvements in crop estimating and reporting will be undertaken jointly by Provincial agricultural and marketing staff in conjunction with the Statistical Section of the Ministry of Rural Development.

99. Special efforts are required to improve progressively the supply of agricultural inputs for which demand is increasing very rapidly. As a result of the Economic Reforms of November 1970 participation of Government agencies in the supply of agricultural requisites in the line of rail areas previously served, to a large extent, by expatriate businesses will also be necessary, if dislocation is not to result during the interval which will be required for co-operative and private Zambian business to take over the supply of the wide and complex range of requisites used in the agricultural industry. Although the range of fertilisers available from the Kafue factory will be extended in the SNDP and some local manufacture of tools and implements undertaken, in addition to bags and hessian from the Kabwe factory, the majority of input categories will continue to be imported, so that Government para-statals will also be required to extend and improve their importing functions.

100. The lessons of experience in the field of perishables marketing have been evaluated and a more rational programme for the zoning of fruit and vegetable production and marketing is being developed, with the aim of minimising unnecessary transportation, storage and spoilage. The two objectives of increasing national self-sufficiency in fruit and vegetables and of progressively increasing their consumption throughout the country will be pursued further during the SNDP. At the same time, the budgetary costs of providing a marketing system for perishables must be reduced and likewise the average prices for fruit and vegetables. Opportunities for the processing of fruit and vegetables, currently under examination, will also be developed.

101. In the SNDP, steps will also be taken to develop the grain storage capacity of the country, not only for reserve storage in the main centres of consumption along the line-of-rail, but at key centres in the Provinces where additional storage is required to foster local self-sufficiency, cut down unnecessary seasonal transport and dry-season transportation, when costs are lower. The existing milling capacity in the Provinces will be expanded to keep pace with local increases in production and consumption.

102. The main expansion in Namboard storage capacity, and in INDECO's food processing facilities, will, therefore, be with reference to maize. However, the major effort proposed to increase the output of oil seeds, must also be matched by adequate storage, handling and processing facilities. Development of such facilities will be undertaken with collaboration between Namboard, the Rural Development Corporation and INDECO. These will include a processing plant for cotton seed as well as the provision of additional ginning capacity and plant to process new oil seed crops. The RDC subsidiary, Zambia Pork Products, at present the only processing facility owned by the Corporation, will be expanded and modernised during the SNDP, to cope with the planned increase in the output of pigs. Steps are also being taken to establish poultry processing facilities.

103. The Cold Storage Board, in addition to providing a residual market for cattle in the main producing areas throughout the country, and facilities for slaughter of pigs in the Eastern and Southern Provinces, is responsible for all abattoirs currently in operation and for the wholesaling of a substantial proportion of all beef consumed throughout the country, supplementing local production with imports, for which it is solely responsible. The Board will be required to increase its wholesaling functions during the SNDP as a result of the November, 1970, Economic Reforms, as well as adding to its retail outlets in the main population centres until such time as adequate private butcheries are established. The Board is already assisting in the training of Zambian butchers and will strengthen its activities in this sphere. The Board's main expansion during the SNDP, however, will be the commissioning of the new abattoir at Mongu—and the completion of the programmes for the provision of cold rooms and simple slaughter facilities at provincial centres away from the line-of-rail. Further steps will also be taken to improve the rural cattle sales operations and facilities as an essential element in the development of off-take from the traditional herd.

104. No major developments in marketing facilities are required by the TBZ during the SNDP. With the possible exception of Burley tobacco in the Eastern Province, most existing facilities can adequately cope with the increased production of tobacco envisaged in the Plan.

105. The Dairy Produce Board will continue to provide a guaranteed market for fresh milk in the main producing areas along the line-of-rail, as well as collaborating with the Projects Division of the Ministry of Rural Development to establish processing facilities in conjunction with their rural dairies. Eventually these, and other centres at Provincial and District level, will provide focal points for the encouragement of small-scale producers to undertake milk production with stock provided under the Rural Milk Production Scheme operated by the Department of Agriculture. The use of blending plants will enable the consumer market to be more fully developed in these townships, as well as ensuring continuity of supply during off-peak periods of production. With the completion of the current programme, undertaken during the FNDP, for additional processing and manufacturing facilities, no major expansion in facilities is required by the Board during the SNDP. Investment in the dairy industry will rather be concentrated upon increasing local production mainly by commercial farmers and by the Rural Development Corporation.

106. The main requirement for all five para-statals will be that of improving overall efficiency, reducing overheads and generally tightening up budgetary procedures and expenditure control. During the past few years, the overhead cost and adverse profitability of the Cold Storage Board has become increasingly apparent, and recently a study has been undertaken to examine the position in detail and recommend necessary changes. This also applies to Namboard, where there is also scope for a great deal of improvement if unnecessary losses in

the handling of imports—particularly perishables—and of local supplies of perishable produce are to be reduced to satisfactory levels. For all para-statals, therefore, there is a need for greater financial stringency and the continuous application of cost-minimisation, consistent only with effective operation. This challenge must be met by Board managements, and it will be the responsibility of the parent Ministry to see that it is met.

107. The establishment of a fish marketing organisation is of the utmost importance, to improve the flow of fish from the fishing areas to the consumer, and to give greater incentives to encourage fishermen to produce more and better quality fish. In respect of honey and beeswax, the Forest Department will endeavour to create marketing facilities where these are deemed necessary. The needs of the smaller rural communities for saw-timber, building and creosoted poles and posts may be met by organising rural supply depots and encouraging the establishment of timber merchants to sell the produce of the Department's forests and plantations.

Land Use, Farm Planning and Conservation

108. For the above fields, the Land Use and Engineering Services Division of the Ministry of Rural Development will, during the SNDP:

(*a*) co-ordinate the land-use aspects of all Government and para-statal projects in the rural areas, and the planning of schemes for the Projects Division and, where required, for RDC, TBZ, etc.;

(*b*) continue and reinforce the existing programme of catchment planning and soil conservation in liaison with the Office of the Conservator of Natural Resources;

(*c*) within the limits of staff available, continue the preparation of resource and land-use plans for all Districts, giving priority to areas where density of stocking or population creates a danger of soil degradation;

(*d*) complete the existing land-use map of Zambia and commence preparation of the map of land-use potential, giving priority to areas of known high potential required for Settlement Schemes and Intensive Development Zones.

109. The Survey Department will expand its mapping programme to complete the 1 : 50,000 series by 1976. This accelerated programme depends upon the recruitment of extra staff.

110. The Conservation Working Account Unit will continue to carry out bush clearing, dam construction, road construction and major soil conservation works. Demand for these services is increasing.

111. The Soil Survey Section is to be expanded into the Zambia National Soil Survey, with technical assistance from FAO and bilateral sources, to provide for the increased demand for detailed information on soil potential.

112. Conservation and the control of bush fires are now to be co-ordinated by the Department of Natural Resources Conservation, implementing the Natural Resources Conservation Act of 1970. This provides for a programme of national education on the need for conservation and also for authority for the enforcement of conservation measures. In the SNDP, the campaign of education and implementation will be developed in conjunction with the Land Use Services of Rural Development through the Natural Resources Committees that have been established in all Provinces and districts. The field staff of the department will be increased to serve those Committees and the rural people they represent.

113. Farm planning will continue to be carried out in commercial farming areas, provided additional planning staff can be made available, in conjunction with the advice of Farm Management. Farm Management Advisory Services are particularly important for emergent commercial farmers and will become increasingly necessary with the establishment of Intensive Development Zones.

Mechanisation and Engineering Services

114. During the SNDP, the main emphasis in agricultural mechanisation will be upon:

(*a*) the rationalisation of the tractor hire services provided by the Projects Division and the tractors operated by co-operatives so as to reduce costs, increase utilisation and efficiency and improve maintenance and repair standards;

(*b*) the wider and more effective use of ox-drawn equipment, including the introduction of draught oxen in areas where they have not traditionally been used;

(c) improving mechanical advisory services to small-scale producers, encouraging the establishment of contracting services by service co-operatives or individuals, and fostering the provision of more maintenance and repair facilities in the private sector, as well as expanding and improving those offered by Government agencies.

115. Associated with these objectives, there will be a steady expansion in the training of staff required for extension in the field of mechanisation, as well as other forms of engineering, together with the training of operators.

116. The testing of suitable types of equipment and the subsequent screening of import requirements to encourage the introduction of appropriate plant and equipment, together with adequate spare parts, will be undertaken during the SNDP. At the same time, the opportunities for local manufacture of suitable equipment must be identified and tested in the field. Research will also be undertaken to determine the actual labour constraints in typical farming systems in Zambia and to determine more precisely the real needs for labour-saving machinery and the economics of its use. With these aspects in view, a machinery testing and research unit will be established at Magoye Regional Research Station, with the necessary staff and facilities which will operate in collaboration with the various other Departments and agencies concerned with these questions. Some additional credit funds will also be required by the AFC, to provide more medium-term loans for appropriate agricultural machinery in conditions where its economic use has been demonstrated.

117. The African Farming Equipment Company, the RDC subsidiary, will be expanded to improve distribution of agricultural machinery and spares, and will liaise closely with Rucom Holdings, in order to accelerate the establishment of more garage and repair facilities in the rural areas. The Engineering Section of the Ministry of Rural Development, in conjunction with the Projects Division, will be involved jointly in improving Line 1 and Line 2 maintenance and repair facilities required for Government and co-operative-owned tractors, and negotiations are being conducted with a view to Line 3 repair work being undertaken by the Mechanical Services Branch of the Ministry of Power, Transport and Works.

118. If the private sector is to be adequately serviced, some encouragement must be given to enable privately-owned garages and machinery agents who provide adequate repair facilities to expand their supply functions during the next few years to match the expansion in production which is provided for in the SNDP. This will involve some careful phasing in the implementation of the latest Economic Reforms. Although tractors and other field equipment pose the most difficult problem in regard to maintenance and repair, pumps, sprays and many other varied items of equipment are increasingly used in agricultural production and both spare parts and service facilities for these must be provided at the right time and place.

119. The Engineering Section of the Ministry of Rural Development will continue its programme of conservation engineering, land clearing, research and advice on farm machinery and buildings, and irrigation advice and engineering. It will pay particular attention to the preparation of a series of basic approved designs for farm buildings which will qualify for subsidy payment, and also to the preparation of planning guides for farm buildings and small irrigation schemes. In this field, too, the provision of building materials and tools and equipment for construction in the rural areas is very important if productive investment is to be encouraged and undertaken at reasonable cost. The implementation of the Economic Reforms in regard to trade in these categories of inputs will, therefore, also require the serious attention of Government if dislocation is to be avoided.

Development of Water Resources

120. Many parts of Zambia have limited supplies of water and, in reviewing the FNDP, the importance of water in all fields of development and the need to establish a strong central authority responsible for all aspects of water resource conservation, planning and use is clearly seen as an objective to be achieved in the SNDP. This will be pursued, although the precise form and scope of the authority has still to be finalised.

121. Allied to this is the need to establish capacity in the public sector to develop the irrigation potential of the country, in addition to the minor irrigation projects presently undertaken by the Land Use Services and Projects Division. At present, the only substantial irrigation project—sugar production at Nakambala Estate—was developed in the private sector, although its expansion to full capacity is now to take place on the basis of joint ownership with INDECO. The irrigation potential of an adjacent area of the Kafue South Bank, at Nega-Nega, is currently being evaluated, together with other possible areas. Some 4,000 hectares of land are to be brought under irrigation during the SNDP.

122. Work will also be started on long-term development plans for selected catchments and river basins with special reference to mining and industrial development in the Copperbelt, and the establishment of Intensive Development Zones in rural areas. The installation of public water supplies in both rural and urban areas will continue, and as the operation and maintenance of the smaller units under Government as well as township and rural councils is not as reliable as it should be, arrangements have been agreed whereby councils may delegate this responsibility to the Department of Water Affairs. Facilities for a unified system of training and service for waterworks staff will be introduced.

123. The difficulty of getting competitive tenders for medium- and small-scale construction contracts in rural areas will be overcome by establishing, where necessary, suitable construction units within the Department of Water Affairs which will work in rural areas using local labour and sub-contractors. Plans to increase the Department's capacity for surveys and drilling in the rural areas are well in hand and will come into effect during the SNDP.

124. Finally, legislation is to be introduced to control pollution of both surface and underground water and to extend the powers of the Water Board to cover all sources of water in Zambia.

Veterinary and Tsetse Control Services

125. The extension and improvement of veterinary services is to be continued in all parts of the country, with particular emphasis on those Provinces with serious disease problems and those where the main livestock development in the SNDP is to take place. Areas of emphasis will include the Eastern and Northern Provinces to control East Coast Fever, and the Western Province to eradicate Contagious Bovine Pleuropneumonia and to prevent fresh incursions of the foot and mouth disease from Angola.

126. New veterinary service projects for the SNDP include:

(*a*) provision of dip tanks and spray races in main disease risk areas;

(*b*) establishment of Regional Veterinary Diagnostic Laboratories, to avoid delays in submitting pathological material to the Central Laboratory;

(*c*) establishment of Regional Artificial Insemination Centres;

(*d*) development of quarantine stations, to enable strict disease control regulations to be enforced on the movement of cattle;

(*e*) provision of more transport and housing for trained staff, to facilitate the provision of Veterinary Services in the field;

(*f*) improvement of clinical services;

(*g*) extension of the programme on infertility and calfhood disease;

(*h*) establishment of three mobile rabies control units; and

(*i*) a programme to investigate, control and eradicate tuberculosis both in commercial and traditional herds.

127. The main Provincial operations of the Tsetse Section will be as follows:

Central: Consolidation and extension will be undertaken of existing holding lines in Mumbwa District. New grazing areas will be opened up on the Kafue North Bank by fencing and establishing holding lines after aerial spraying. The East Lusaka Holding line is to be extended along the edge of the Luangwa Valley.

Copperbelt: Investigation of tsetse fly situation on the West Copperbelt, with establishment of holding lines where necessary.

Eastern: The existing holding line will be extended North and South. The line will be double-fenced and bush will be cleared along its length, with all fly being pushed back to the line.

Luapula: Investigation of the tsetse fly situation preparatory to establishing consolidation zones where necessary.

Northern: New stations to be opened at Kasama, Mpika and Mporokoso. Full survey of the fly position. Bush clearing, where necessary, along the line of the Tanzam Railway.

North-Western: New stations to be opened at Solwezi and Kabompo. Full surveys of the fly position. Holding lines where necessary.

Southern: Completion of fly elimination in the Gwembe Valley area. Elsewhere, fly to be pushed back to open up new grazing areas.

Western: Work will be carried out to consolidate the present holding line on the Mashi fly belt. A new holding line will be established near the international border and all fly in the area will be eliminated by aerial spraying.

128. The Insecticide Unit will carry out some 207,000 hectares of ground spraying each year, mainly in the Eastern, Southern and Central Provinces. About 260,000 hectares of aerial spraying will be carried out annually by Rural Air Services under the supervision and direction of the Unit, mainly in Southern, Central and Western Provinces. In all Tsetse Control and Eradication Programmes, priority will be given to areas where development depends upon prior clearance and where subsequent intensified land-use can be assured, so that re-infestation does not nullify the investment undertaken.

Research

129. Strong emphasis will be given during the SNDP period to establishing and maintaining research facilities and programmes that will have the maximum impact in improving the productivity of the rural areas, by promoting the more efficient production of existing commodities and by speeding the introduction of new crops and varieties. The scarcity of research resources, particularly in terms of manpower, dictates that research be geared as closely as possible to extension and direct production requirements and every research programme will be measured against those requirements. Special efforts will be made to ensure that research findings are disseminated and applied promptly and effectively.

130. *Crop Husbandry.* Considerable progress was made during the FNDP period in extending research facilities for crop and animal husbandry, particularly with the establishment of new regional research stations. During the SNDP, those facilities will be consolidated, with the addition of some further sub-stations, regionally situated. Priorities in research will be related closely to the National and District production priorities outlined earlier in this Chapter, together with programmes dealing with such fields as irrigation, soils, seed-testing, plant protection and inspection, biological control and farm management. More emphasis will in future be placed on food conservation and storage methods and on farm machinery testing.

131. *Animal Husbandry.* The high priority allocated during the SNDP to livestock production will require an accompanying high priority for livestock research at national and local levels. In addition to the work on livestock to be sponsored by the NCSR, the Departmental programme will include more research in pasture management, fodder conservation, and small stock. The expansion of the Nakambala Sugar Estate on the land occupied at present by the Central Research Station at Mazabuka will involve major expenditure to carry out the phased transfer of research facilities to a new site.

132. *Veterinary and Tsetse.* During the FNDP there was some dispersal of veterinary and tsetse research among various research bodies, so that co-ordination and direction of research programmes suffered. It has, therefore, been decided that, during the SNDP, the Department of Veterinary and Tsetse Control Services' own Research Division will, to an increasing extent, carry out research work within the overall field for which the Department is responsible. The programme will be consolidated by the completion of the movement of Veterinary Research facilities from Mazabuka to Mount Makulu.

133. *Forestry.* Priority will continue to be given to research support for the Forest Department's management of indigenous forests and plantations and particularly to research connected with the establishment, tending, protection, utilisation and improvement of pine and eucalyptus plantations, but increased attention will be given to research connected with farm forestry. Research carried out by the National Council for Scientific Research will be more effectively co-ordinated with that of the Forest Department. At the Forest Products Centre, Kitwe, research and development work will be expanded on sawmilling, seasoning, preservation, woodworking, timber design and timber engineering.

134. *Fisheries.* The Fisheries Research Division will be primarily concerned with the implementation of biological and fish stock research, which should result in more efficient control of fish resources. It is intended to implement a further research programme in conjunction with FAO with the emphasis more on training and extension than on pure research to guide development of individual fishery areas during the SNDP.

135. *Wildlife and National Parks.* Major research programmes continuing during the SNDP will include the Luangwa Valley Project, undertaken jointly with UN/FAO, and the Black Lechwe Project.

136. *Socio-economic Research.* There is a very pressing need for more socio-economic research in the field of subsistence and emergent commercial production, as a guide to Government policy, the provision of services, and rural development generally. Research of this nature

will be carried out by the newly established University of Zambia Rural Development Bureau, as well as under the National Council for Scientific Research, in close collaboration with executive Ministries. The Farm Management Section and Planning Unit of the Ministry of Rural Development will also undertake more analysis during the SNDP of the economics of production of various crops and farming systems, including projects in which the Ministry is directly concerned, e.g. in Settlements, Projects Division, IDZs, and para-statals.

E. CO-OPERATIVE DEVELOPMENT

137. The development of the co-operative movement occupies a central place in the philosophy of Humanism and the creation of viable forms of co-operative activity is seen as an essential element in rural development, as well as in Zambian enterprise in other spheres. At this stage, the promotion of effective co-operative societies depends heavily upon the Co-operative Department of the Ministry of Rural Development, but as further training is undertaken and established, and unions and societies gain in experience, the movement must make collective efforts to stand on its own feet.

138. During the FNDP, emphasis was given to the rapid establishment of co-operative farming societies supported by management and mechanisation service provided, where possible, by Government, together with subsidies for clearing land as well as generous loans from the Credit Organisation of Zambia, which many societies were not in a position to use effectively or repay. The process of amalgamating these societies into unions with prospects of achieving economic viability will be continued during the SNDP. At the same time, a start has already been made to shift emphasis towards the establishment of service co-operatives based upon existing marketing-orientated societies and those of the farming societies which show signs of viability. As already mentioned in the section dealing with marketing, it was only in the Eastern Province that the co-operative movement had made substantial progress at the time of Independence. The lessons learned, however, indicate that the marketing function, properly managed, can be expanded to include supply of basic consumer goods as well as agricultural requisites, distribution of agricultural credit and, in some cases, transport and processing. It is in these fields that the multi-purpose co-operative has the greatest part to play.

139. Guidelines for the co-operative movement during the SNDP have been formulated and are as follows:

(*a*) a co-operative society should meet a real economic need and have reasonable prospects for success as well as being of benefit to the members;

(*b*) prospective members should receive adequate co-operative education and information about the operation of a society before registration takes place, and committee and member education should continue thereafter;

(*c*) members must themselves contribute sufficient funds to enable operations to commence, Government assisting with items such as water, roads, etc., in the case of a farming society, or with credit in other cases in accordance with the normal criteria for credit-worthiness;

(*d*) there must be an assurance of competent management before the commencement of operations of a new society;

(*e*) members should initiate and run co-operative societies themselves; Government's contribution should be to stimulate and promote self-reliance;

(*f*) in the case of farming societies, sophisticated forms of mechanisation and capital-intensive techniques generally should be avoided unless it is within the competence of members themselves, the emphasis being instead on improved seed, correct use of fertiliser and animal-drawn implements;

(*g*) more emphasis must be placed upon the selection and training of co-operative leadership, and there must be an adequate number of members able and willing to give their time and energies to committee work before a society is formed;

(*h*) primary societies should be grouped into unions, and common services established wherever possible;

(*i*) to deal with the vast reorganisation and consolidation of existing co-operative societies which is required, as well as to ensure that future societies are established on a sounder basis, there will be a comprehensive planning team in the Department of Co-operatives and improvement in the quality of provincial and district co-operative extension staff.

140. A start has already been made on the recruitment of a planning team for the Department of Co-operatives, and special arrangements have also been made for the provision of an audit and accounting systems unit to establish better financial control within unions and societies, to identify training needs, and to establish accounting methods which will assist managers and committees in economic decision making. During 1969, the whole Co-operative Ordinance was overhauled and the new legislation provides for tighter supervision of existing societies by the Department as well as requiring closer control during the formation of new societies or in the affairs of societies threatened by liquidation. The new audit and accounting unit, drawing on the services of established commercial accountants, is an essential corollary to the new legislation.

141. In addition to improving and expanding the function of the four major marketing and supply unions, referred to under the section on Marketing, the SNDP co-operative development programme will include the promotion of co-operative activities in the following fields:

(i) the Credit Union movement, of which fourteen have already been established and others are in the process of formation;

(ii) rural co-operative sawmills;

(iii) fishing co-operatives, in which progress to date has been very slow, but which offer a chance to reduce marketing margins and ensure the establishment of improved fishing, storage and marketing techniques in which fishermen will participate fully;

(iv) consumer societies both in the urban and rural sectors will be expanded to play an effective role in the implementation of the November, 1970, Economic Reforms;

(v) construction and building material supply co-operatives.

142. During the SNDP, further expansion in co-operative staff training will take place, opportunities being taken to associate co-operative training with that of other extension agents in the rural sector so as to secure a better technical training base for co-operative principles and practice amongst other extension workers. Additional provision will also be made for the training of committee members and co-operative membership generally. In view of the magnitude of the task to be faced in the field of co-operative development, relative to the resources available in Zambia at the present time, special efforts will be made to seek further technical assistance from the international agencies, as well as bilaterally, from countries with a real interest in, and substantial experience of, co-operative development, from whom significant help has already been received.

F. FINANCIAL OUTLAY

143. The total estimated budgetary cost of the Plan is K168.7 million as shown in Table II–4.

Table II–4—Rural Sector Financial Outlay
(K thousand)

Ministry/Department/Para-statal	1972	1972–76
Ministry of Rural Development—Headquarters	1,537	24,971
Lands Use Service Division	604	3,410
Projects Division	2,536	8,772
Marketing Department	106	482
Department of Agriculture	1,444	13,657
Research Branch	494	1,983
Department of Veterinary and Tsetse Control Services	1,766	10,680
Training	1,273	2,732
Department of Water Affairs	2,489	13,032
Department of Co-operatives	935	5,271
Department of Community Development	100	739
Rural Information Services	36	510
Cold Storage Board	650	1,368
Dairy Produce Board	1,156	3,679
National Agricultural Marketing Board	1,355	10,000
Rural Development Corporation[1]	1,986	12,001
Tobacco Board of Zambia	4,058	20,713
Wildlife and National Parks	311	8,760
Natural Resources Conservation	—	197
Survey Department	85	2,315
Lands	—	1,835
Forestry	2,755[2]	13,730
Fisheries	405[3]	7,894
Total	26,108	16,8731

[1] Excludes loan funds for the Agricultural Finance Company.
[2] Includes external funds for industrial plantations.
[3] Includes Fisheries loans.

G. MANPOWER REQUIREMENTS AND STAFF TRAINING

144. During the period of the First Plan, the Ministries were working under the severe constraint imposed by a shortage of qualified staff. This shortage was particularly severe at the professional and senior technical level.

145. The performance of staff is very much dependent on their degree of training, and the two Ministries have been continually aware of the need to organise effective training facilities. The Natural Resources Development College offers three-year diploma-level training in agriculture and related subjects and its capacity is at present being expanded to 450 student places. The School of Agricultural Sciences of the University of Zambia accepted its first students in 1969 and its new building is included in the University's development programme.

146. Basic training for field staff in the Agriculture and Veterinary Departments is now a two-year course. Agricultural Assistants are trained at the Zambia College of Agriculture (ZCA) at Monze, while Veterinary Assistants receive their training partly at ZCA and partly at Mazabuka Veterinary Training School. Training for Tsetse Control Assistants has been put on a more formal basis, and three-months courses are now given at Mazabuka School for these staff. The Community Development School at Monze provides a one-year course for about forty-five Community Development Assistants annually. Junior co-operative staff receive their training at Luanshya Co-operative College. Training for agricultural staff at demonstrator level is given at Farm Institutes.

147. The momentum of existing activities, together with the creation of new tasks and responsibilities during the Second Plan, will inevitably mean that the Ministries will require increased staff at all levels.

148. This programme will put a considerable strain on the training facilities—and the budget. It calls for 542 professional staff in 1976 of which 231 will require to be graduates in Agriculture, and the balance would be Agricultural Economists, Engineers, Veterinary Surgeons and Sociologists and Biologists. The annual output of diploma holders to fill the new posts should be 230 (compared to the NRDC output of 150), while a further 50 would be trained annually at Form V level at Luanshya Co-operative College. The demand for Certificate holders from the present courses at the Zambia College of Agriculture is 190, compared with an output of 100 per annum at present. Some small increase in the output of Community Development Assistants will also be required.

149. To meet this demand, training facilities must be further expanded. An additional 150 places will be provided for diploma training, probably in conjunction with certificate training at Mpika, which will increase the annual output from 150 to 200 diplomates. Work has begun at Mpika on the building of a second certificate-level college to increase the total output to 200 annually. The Veterinary Training School facilities will move from Mazabuka because of the expansion of the Nakambala Sugar Estate, and the ZCA, Monze, will be expanded to 350 student places to accommodate these courses.

150. The training policy of the Ministry of Rural Development on the agricultural side will continue to be to provide specialists at the senior and junior levels with generalists at the middle levels. In keeping with this, Animal Husbandry Assistants, Agricultural Assistants and Veterinary Assistants all receive a common first-year training with specialisation according to their major activity in their second year. The syllabus will include more emphasis on programme planning, mechanisation and farm management as new students enter with a better basic education.

151. At diploma level, the Natural Resources Development College will continue to offer a wide range of subjects with emphasis on practical training. To avoid the expense involved with a high staff-student ratio, joint courses for students in different divisions will be encouraged, and the possibility of a common first year for all students will be explored.

152. The importance of credit, co-operatives and community development staff with a basic knowledge of the principles of crop and animal husbandry is recognised; similarly, all staff working in the rural areas should have some knowledge of the principles of co-operation and community development, and the operation of District and Ward Development Committees.

153. Considerable progress was made in Zambianisation at the technical officer level. At the professional level, the majority of posts are still held by expatriates, and there is little likelihood of the position changing in the course of the Plan.

154. The greatest difficulty in recruiting staff will occur at professional level, and recruitment from overseas will be stepped up, as the University of Zambia will not begin to make a substantial contribution to the supply of graduates until the latter half of the decade. A number of technical assistance agreements have been signed with friendly countries under which agricultural staff will be made available to assist in implementing the Plan. The volunteer agencies will also be asked to continue to assist.

155. The large increases in professional and technical staffing called for to increase productivity in the rural areas, implies that recurrent expenditure on technical manpower will increase by 8 per cent per annum during the Plan. Every effort will also be made to ensure that, where staff already exist, adequate transport and housing should be made available, in order that full and efficient use is made of them.

156. High priority will be given during the SNDP to increased Fishery Service staff training and to the recruitment of more experienced staff to work in the extension division. All future entrants to the junior ranks will be of Form II standard and departmental staff will continue to undergo refresher courses.

157. The forestry training programme in the SNDP provides for additional facilities, and for the further development of Mwekera and Chati training centres.

158. The activities of the National Parks and Wildlife departmental training school are to be increased, by adding guards training courses to the present programme of training as well as refresher courses, promotion courses and some in-service training in routine administration for certain officers.

Table II–5—Staff Requirements of Ministry of Rural Development and Ministry of Lands and Natural Resources by Broad Categories

Staff Category	Ministry			
	Rural Development		Lands and Natural Resources	
	1970 Actual	1976 Required	1970 Actual	1976 Required
1. Professional and senior technical staff ..	325 (106)	792 (417)	125 (30)	248 (118)
2. Middle level technical staff	325 (284)	1,110 (1,100)	153 (120)	416 (393)
3. Junior technical and general staff	(1,457)	(2,866)	(1,506)	(2,101)
Total	2,107 (1,847)	4,768 (4,383)	1,784 (1,656)	2,765 (2,612)

NOTES:
1. Figures in brackets denote number of Zambians out of the total.
2. The levels of staff are defined by Salary Grade:
   (*a*) professional and senior technical: GS; GP; T/4/2;
   (*b*) middle technical: T4–T7;
   (*c*) junior technical and general: T8–T13.

CHAPTER III—MINING

A. AIMS AND OBJECTIVES

The aim of mining development in the SNDP is to promote rapid development of mineral resources in order to increase employment opportunities, Government revenue, foreign exchange earnings and development of the rural areas.

2. The Government will continue to emphasise prospecting and exploration for minerals in the SNDP. It will promote activities of the mining and prospecting companies. The Government will also promote the development of small mines and mining diversification in general including labour intensive projects. The Government will continue to consider legislation which, in the long run, will assure the best climate for investments and vigorous entrepreneurship in mining aimed at promoting increases in the production of copper and other minerals.

3. It is the responsibility of the Government to promote exploration of all possible avenues which could lead to long-term stabilisation of the price of copper. Manufacturing industries based on locally produced metals will be promoted with output geared to local requirements as well as possible export.

4. The Government will promote the conservation and best use of the mineral resources. Improved recovery, the exploitation of low grade ores, the recovery of by-products and the utilisation of waste products will be matters of particular concern.

5. Copper mining being the backbone of the economy at present, foreign exchange and currency reserves of the Government are mainly based on copper sales. Exploration for other minerals aimed at further diversification of the mining industry will continue during the SNDP.

B. MINES

Mineral Production

6. The average copper price assumed in preparing the Plan is K740 per metric ton f.o.b. Gross output shown in Table III—1 (which includes also quantities) will increase by 37.4 per cent from K509 million in 1971 to K699 million in 1976, which gives 6.6 per cent average rate of growth for 1972–76. Non-copper minerals in 1976 will account for 5.8 per cent of the total gross output, a slight increase compared to 1972. This figure does not include possible increases in the production of copper and non-copper minerals which may result from the exploration now taking place.

7. The production cost per metric ton of copper was higher in 1970 as compared to 1969. It further increased in 1971. The Mufulira Mine disaster had a significant effect on the increase in costs. It is however expected that the cost will decrease gradually towards the end of the SNDP, but will remain above the 1970 level largely because the copper produced at Mufulira will continue to be more expensive.

8. The copper mines will expand their capacity, taking into consideration available reserves of ores and grades. The concentrators will be expanded to cope with the increased mining production. Smelters will expand by only 1.5 per cent from 686,000 metric tons at the end of 1971 to 696,000 metric tons in 1976, but leach plants by 65.6 per cent from 122,000 metric tons at the end of 1971 to 202,000 metric tons in 1976 and refineries by 20.8 per cent from 581,000 metric tons in 1971 to 702,000 metric tons in 1976. Table III–1 shows that the production of copper will increase by 39.5 per cent from 645,300 metric tons in 1971 to 900,000 metric tons in 1976 which gives 6.8* per cent average annual rate of growth for 1972–76, as compared with 0.6 per cent for the 1969–71 period. In addition to Nchanga Consolidated Copper Mines and Roan Consolidated Mines, which will provide the bulk of copper, smaller companies will produce only less than 1 per cent of the total.

9. A number of projects will contribute to the increase of copper production. Existing mines will expand and restore their production; significant among these are Mufulira, Rhokana and Chambishi. A large expansion of copper production is also expected from projects like the New Nchanga leach plant and the Baluba, Bwana Mkubwa and Kansanshi mines. The new leach plant is a development of particular importance because this will be the world's largest plant using the solvent extraction process to recover copper from low-grade ores and tailings. Related to this project will be the gas-collecting and sulphuric acid consumption by the leach plant. Both projects are major break-throughs in copper metallurgy.

* Costs of transport per metric ton of copper will vary during SNDP. Rate of growth is accordingly 6.6 per cent for Gross Output and 6.8 per cent for tonnage. It may be noted that the low level of copper production in 1971—which is taken as the base year—on account of the Mufulira disaster tend to show an abnormal rate of growth during 1972–76 as against 0.6 per cent during the period 1969–1971.

10. The main by-product of copper processing will be cobalt concentrates. It is envisaged to recover several more by-products from slimes.

11. The production of pyrite concentrates, which started in 1969, will increase by 20 per cent from 60,000 in 1971 to 72,000 metric tons in 1976 and will continue to be used as an additive in copper metallurgy.

12. Significant development is also expected in the metallurgical *lead-zinc* plant at Kabwe, which would result in processing of dump materials in the new Waelz kilns. This will lead to an increased production of lead and zinc, as well as substantial extension of the mines' life to about twenty years or more. Production of *lead* will increase by 7.4 per cent from 27,000 metric tons in 1971 to 29,000 metric tons in 1976, which gives an average annual rate of growth of 1.4 per cent during 1972–76, as against 4.2 per cent during the 1969–71 period. Production of *zinc* will increase during 1972–76 period by 27.8 per cent from 54,000 metric tons in 1971 to 69,000 metric tons in 1976 which gives an average annual rate of growth of 5 per cent as compared to 3.2 per cent during 1969–71. The difference in the rates of growth for these two metals during the SNDP is due to the changing grade of the ore and dump materials to be treated in future.

13. Non-metallic mines and quarries of *amethyst*, *limestone* and *emerald* will be expanded and additional resources of industrial minerals will be exploited.

14. Among fuels, the most significant commodity being exploited is coal. It is intended to improve the operations at the Maamba Colliery by making modifications to the washing plant and improvements of railway transport arrangements. These will reduce the cost of coal and improve its quality. The production of coal will follow demand and insofar as its consumption might drop in copper metallurgy, after 1973 some alternative uses for coal should be sought. In addition, it is envisaged to use the middlings as fuel for a thermal power plant. (More information on this is given in Chapter V.)

Table III-1—Quantity and Gross Output of Minerals 1969–76

Commodity	1969	1970	1971	1972	1976	Index 1976 — 1971	Annual rate of growth 1972–1976 %
Total (K million)	586.7	535.2	508.8	573.9	699.0	137.3	6.6
Non-ferrous Metal Mining[1] (K million)	582.7	529.8	500.1	564.3	690.6	138.1	6.7
Copper (K million)	558.3	504.7	474.2	538.5	658.2	138.8	6.8
Copper ('000 metric tons)	753.2	684.7	645.3	738.7	900.0	139.5	6.8
Lead ('000 metric tons)	23.0	22.0	27.0	26.0	29.0	107.4	1.4
Zinc ('000 metric tons)	50.0	53.0	54.0	55.0	69.0	127.8	5.0
Cobalt ('000 metric tons)	1.6	2.1	2.4	2.4	3.5	145.8	7.8
Silver ('000 kg)	2.4	5.3	2.4	2.4	4.0	116.6	3.1
Cadmium ('000 kg)	6.0	12.0	12.0	12.0	14.0	116.7	3.1
Coal Mining (K million)	3.3	5.1	8.5	8.2	6.0	58.3	—
Coal ('000 metric tons)	330.0	590.0	900.0	990.0	1,230.0[2]	114.4	2.7
Other Mining and Quarrying[3] (K million)	1.6	1.7	1.8	2.2	2.0	166.7	10.8

[1] Prices of metals: copper K740 per metric ton, f.o.b.; lead and zinc K195 per metric ton combined; cobalt K3.99 per kg; silver K46.54 per kg; cadmium K3.3 per kg.

[2] Included are 400,000 metric tons of middlings for power-plant.

[3] Minor quarries are not included.

Government Revenues

15. According to present estimates, it is expected that the mining industry will generate a total Government revenue of around K473 million during the period 1972–76 at K740 per metric ton* of copper on condition that production costs do not increase contrary to our

* Value f.o.b.

forecasts. Increased production costs and capital expenditures will nevertheless reduce the Government revenue, particularly during the first two years of the SNDP.

Gross Domestic Product (GDP)

16. The GDP in millions of kwacha, using K740 price per metric ton* of copper as planned constant price, is likely to show the following trend:

1969	1970	1971	1976
418.5†	353.3†	321.3	432.9

Taking 1971 as base year, by 1976 the GDP will increase by 34.7 per cent, giving an average rate of growth of 6.1 per cent per annum. If one takes 1969 and 1970 as base years one gets an average rate of only 0.7 per cent and 4.2 per cent respectively. This is due to the Mufulira disaster, which makes 1970 an abnormal base year (because it is too low compared to 1976).

Supplies of Mines

17. The increased production of mineral commodities will require more domestic and foreign supplies. Demand for explosives will increase by 16.2 per cent of which part will be supplied by the domestic industry. Cement consumption will increase substantially during period of high investment activities (1972–73) by 52.8 per cent, timber by 12.7 per cent, liquid fuels by 222.6 per cent whilst the demand for washed coal will drop by 19.5 per cent. Import of pyrite will cease and all pyrite requirements will be supplied by Nampundwe Mine. An import of sulphur up to 35,000 metric tons per year is required, to make up for the production of sulphuric acid as estimated by the consumer. Due consideration is being given to an alternative supply of sulphuric acid recovered from converter gases in order to avoid the import of sulphur and decrease atmospheric pollution.

C. PROSPECTING, EXPLORATION AND DEVELOPMENT BY LICENCE-HOLDERS

18. The Mines and Minerals Act, 1969, changed the concept of mining rights tenure and gave a fillip to the interest in prospecting in Zambia. A number of very ambitious prospecting programmes were proposed. Not all of these proposals were put into effect and over the lapse of two years others have terminated. Prospects in the favoured areas are narrowing but interest in the possibilities of other regions is mounting and during the SNDP period areas now being prospected jointly with a United Nations team will be available. It seems unlikely that any of the prospecting work now going on will have an impact on the national revenue during the SNDP period except certain potential mining areas at exploration stage. A few mines could possibly be developed. Among these, the largest is the *copper prospect in Lumwana area*, where K5.4 million has already been spent. Past exploration has already proved large reserves of low grade ore. The decision to develop the mine will be based on feasibility studies. This project could become the largest new copper mine located off the line-of-rail. Another possible development could be the *Munali nickel deposit*, provided that further exploration and subsequent feasibility studies prove encouraging.

D. GEOLOGICAL SURVEY DEPARTMENT

Geological Mapping

19. A favourable investment environment will be maintained in order to encourage the private sector to increase its level of interest in exploiting the mineral potential of Zambia. To further stimulate this interest the Geological Survey will provide the essential background information. It follows, therefore, that the regional mapping programme is the fundamental and most important service which it provides to the mining industry in particular and to the other sectors of the economy like agriculture, forestry, communication, water supply, urban development, etc. There are two major factors which limit the extent to which the mapping programme can be accelerated. The first is the extent to which contour 1:50,000 topographic base maps, as published by the Surveyor-General, are available. The second factor is the ever present shortage of senior, locally experienced staff. In order to accelerate the rate of mapping, it is proposed to increase the establishment of field geologists.

20. The detailed programme as set out on map (*see* end of book) is designed to complete the mapping of the central block—which now extends from Chipata to Mumbwa and from Chingola to Choma—and to continue outwards into the more remote areas of the Luapula,

* Value *Locle*.

† Because of very favourable terms of trade during 1969 and 1970, GDP has been abnormally high for these years.

Northern, Eastern and North-Western Provinces. The programme takes into consideration the topographic coverage which it can reasonably be assumed will be available and the proposed increases in the field staff. The field mapping will continue to be undertaken on a scale of 1:50,000 and the maps will be published on a scale of 1:100,000 and accompanied by comprehensive reports based also on the geochemical and geophysical data. Revision and compilation for the 1:250,000 series will continue and certain areas where outcrop is sparse will only be mapped on this scale. Using those geologists who are engaged on mapping, a programme of reconnaissance drainage sampling will be continued.

21. While this is adequate as far as the areas currently being surveyed are concerned, there is a 'back-log' of areas which have been mapped. Moreover, in view of the fact that it will take some fifteen years to complete the mapping coverage, it is essential that the formulation of a metallogenic map of the whole of Zambia be accelerated. Thus, it is planned to make extensive use of helicopters during the 1972 and 1973 field seasons in order to complete the broader scale sampling of virtually the whole country. In addition, geochemical sampling results of companies will be largely used in the compilation of the metallogenic map.

Geophysical Survey

22. During the FNDP the Geological Survey undertook what has proved to be the first of a series of airborne magnetometer and spectrometer surveys designed to eventually cover the greater part of the country. The first survey demonstrated very effectively the value of combining such surveys with the regional mapping programme. It is therefore proposed as part of the Geological Survey's capital expenditure during SNDP to conduct regional airborne geophysical surveys over the entire area of the country not presently mapped (*see* blank area on map, end of book, on Aeromagnetic Surveys). This programme will cost around K1·4 million and should be financed by the Government or alternatively by an external loan if this could be arranged in order to distribute financing over a number of years instead of spending in a single year a large sum of money. Should this approach prove worthwhile, it will be necessary to put much of the work out to contract, as the requirement for an extensive survey in terms of skilled manpower would be well beyond the Survey's capacity to meet.

Drilling

23. Drilling for stratigraphic information, in particular in areas where such information is essential for an assessment of the mineral potential will be conducted. Drilling is envisaged in areas where the stratigraphy and structure indicate that the principal mineral bearing beds might lie at shallow depths, and in central and southern Luangwa Valley in order to determine whether or not coal deposits are present beneath overlapping younger sediments.

Joint Mineral Survey Programmes

24. To date the only large-scale primary prospecting programme for base metals, etc. an area of known mineral potential in which the Survey has been involved is the joint programme with the UN Development Programme in a 37,000 sq km block west of Kabwe and Lusaka. (Although it is planned to extend the duration of this project, the field investigations will be completed by the end of 1972.) The Survey will be involved in the reconnaissance prospecting of those areas which are regarded as being generally unpromising in terms of mineral potential (e.g. the Western Province), in order to provide background information which can attract development capital to the backward regions of Zambia at a later stage. In addition the Survey will work where the mineralisation is known but has not been fully assessed (e.g. the manganese mineralisation of the Luapula Province), then in prospecting for those minerals which are of particular interest to Government for strategic reasons, or as part of a policy of diversification of the mineral industry, and finally in experimental surveys using techniques developed elsewhere in order to determine their applicability to the Zambian environment.

25. As previously stated, with the exception of the joint UN programme, the Survey has to date not undertaken any large-scale primary prospecting in an area where the mineral potential in terms of base metals (other than manganese) is promising. It is proposed that a major prospecting programme, on the lines of that currently being carried out jointly with the UNDP team, should be mounted during the SNDP, starting in 1973. The southern part of the Eastern Province, where a geochemical reconnaissance sampling programme was conducted and an airborne magnetic and spectrometer survey was carried out, has been tentatively selected as the site of this project.

Industrial Minerals Survey

26. A country-wide survey of the industrial and building mineral resources of the urban areas has been in progress for some years. Investigations have been largely completed on the Copperbelt and in the Lusaka areas, and attention has now been turned to the provincial centres where it is planned to establish local brickworks. This survey will be extended accordingly to Chipata, Solwezi, Livingstone and Mongu during the SNDP period.

27. Minerals and mineral-based products currently imported include items such as refractories, various fine clay products such as ceramics, gypsum, sulphuric acid, salt, etc. Investigations of the known occurrences of such refractory raw materials as kyanite and magnesite have failed to locate any deposits of economic significance. The only refractory raw material available in quantity is the talc pyrophyllite of the Chipata deposit south of Lusaka. It is possible that this could be blended with common brick-clay to produce some lower grade refractory bricks, and a laboratory investigation of this possibility is planned. (It is in this field, i.e. the optimum utilisation of the known resources of industrial minerals, that the services of the NCSR laboratories should be made use of.) There is need for market research to identify those industrial minerals for which there is an existing local demand, or on which a local industry could be based. It is therefore planned to undertake systematic investigation of industrial mineral resources, including a reassessment of all the occurrences which were located by the concession geologists prior to World War II.

28. A country-wide survey of the *hot-springs* and associated *salt deposits* has been initiated and will be completed in 1972*. The survey of *manganese deposits* of the Luapula Province will be resumed in 1972.

Fuels

29. Although the coal survey programme was successfully concluded during the *FNDP* in so far as a large tonnage of readily mineable coal of a reasonable quality was found and outlined, fieldwork will be continued, though at a reduced rate, in order to complete the stock-taking of Zambia's solid fuel resources and in order to locate any occurrence of coking coal. The geophysical surveys planned for the Western Province will assist in the evaluation of the coal potential of the area and follow-up drilling will be undertaken if justified. A preliminary assessment of the Luano area will be undertaken and of the thin seams of vitrain coal lying above the main seam at Maamba. Provision is made for the Survey to carry out follow-up field work and drilling in which southern Luangwa Valley will also be included.

30. Comprehensive assessments by AGIP, Esso and Rumanian group of consultants have all indicated that potential for oil or gas in Zambia is extremely low. The only area in which further investigation is justified is the Western Province largely because too little is known to prove that the potential is as low as it appears to be, and here future plans will depend on results of the airborne survey. In order to cater for any possible contingency, provision for follow-up ground geophysics and drilling is made.

Conclusions

31. To cope with the programme the number of staff will be increased from the present 137 to 162 in 1976, or by 18.2 per cent, and professional staff from 44 to 49, or by 11.3 per cent. Emphasis will be placed on training of Zambian personnel. For the implementation of the programme the current expenses will increase from K0.4 million in 1972 to K0.5 million in 1976, an increase of 24.5 per cent.

K. CAPITAL EXPENDITURE

32. Capital expenditure required for maintaining and expanding mineral production, which has largely been approved in principle by the Boards of the Companies, MINDECO and others, amount to K474.3 million based on 1969 prices of capital goods and construction. This figure includes K193.8 million to maintain production capacity (including replacement) and K280.1† million for expansion of production capacity. Out of the total of K474.3 million, K176 million is for construction activity and K298.3 million for machinery and equipment. During 1972-76, the capital expenditure for expansion is 46 per cent higher than during the 1966-70 period. In addition to the above-mentioned amount of capital expenditure required for maintaining and expanding mineral production, K46.6 million is anticipated to be possible

* In addition, saline waters encountered in boreholes during the drilling programme in Western Province will be assessed.

† For the purpose of these estimates replacement costs have been considered as capital expenditure.

call on capital for some projects which might start during the late years of SNDP and for mine development by the exploration licence holders, which might start during the SNDP period. An amount of K30.8 million is for promotion of mining, out of which K12.3 million is to be provided by foreign loans and grants. Since the programme of production of copper from Kansanshi has been included in the SNDP, it will be necessary to provide funds for the power line and the road link. Similarly, funds will be required for the upgrading of the road to Nampundwe. The capital expenditure will be financed by both retained profits and loans which might be negotiated by the mining industry during the SNDP period.

33. Prospecting, exploration and research will require some K30.9 million. Some of the expenditure on these activities will come from the recurrent budget of Government as well as the production costs of operating companies. The breakdown is: K12.7 million for prospecting, exploration and research by the mining licence holders; K12 million by prospecting licence holders and K6.2 million, capital expenditure by the Geological Survey Department.

Table III–2—Capital Expenditure in Mining, 1972–76
(in constant 1969 prices)
(K million)

Capital Expenditure	1972–76
Copper[1] [2]	373.9
Lead and Zinc[1] [2]	16.9
Coal[2]	4.6
Other Mining and Quarrying[2]	1.5
Sub-total	396.9
Other Projects[4]	46.6
Promotion of Mining[3]	30.8[5]
Sub-total	77.4
Total Mining	474.3
Prospecting, Exploration and Research	24.7
of which:	
Copper Mines	12.4
Lead and Zinc Mines	0.3
Others	12.0
Geological Survey Department[2]	6.2
Total, Prospecting, Exploration and Research	30.9
Grand Total	505.2

NOTES:
[1] Includes replacements which are part of production costs according to current accounting.
[2] Capital expenditure will mainly be financed by retained profits, about 20 per cent by foreign loans and minor amounts by domestic loans.
[3] Budgetary loans and grants.
[4] Identified projects fully or partly in exploration stage expected to start mine development during SNDP.
[5] Includes K12.3 million foreign loans.

F. EMPLOYMENT AND TRAINING

34. As can be seen from Table III–3, the employment in the mining industry indicates no major change. The number of employees in copper mines is relatively constant, but the total employment is expected to increase from 64,100 in 1972 to 66,000 in 1976, that is by 3 per cent. Other things being equal, wages and salaries will only increase due to promotion to higher categories of jobs. Zambian wage bill shown in Table III–3 is expected to increase due to such changes from K61.2 in 1971 to K73.1 million in 1976, or by 19.4 per cent, an average annual rate of growth of 3.7 per cent. On the other hand, the number of non-Zambians will decrease and their wage bill is expected to drop from K38.7 million in 1971 to K35.6 million in 1976, or by 8.7 per cent, an annual average rate of decrease of 1.7 per cent.

35. The mining industry in Zambia employs by far the largest number of graduates and technicians. The present institutions for education do not cope with the requirements of this industry and it is therefore envisaged that deliberate efforts will be made to promote the training of geologists, mining and metallurgical engineers, and related experts in the University of Zambia as well as in foreign universities.

Table III–3—Employment, Wages and Salaries, 1971–76

	1971	1972	1976	Index 1976/1971	Average Rate of Growth %
Employment, number[1]	64,100	64,100	66,000	103.0	0.6
Metals	57,300	56,600	56,600	98.8	—
Coal	700	700	700	100.0	—
Other Mining and Quarrying	2,900	3,400	5,100	179.3	12.4
Prospecting, Exploration and Mine Development	2,500	2,600	2,700	108.0	1.6
Others[2]	700	800	900	166.7	10.8
Wages and Salaries (K million total)	102.8	105.1	113.3	110.2	2.0
Metals	99.9	101.5	108.7	108.8	1.7
Coal	0.3	0.6	0.7	100.0	—
Other Mining and Quarrying	1.2	1.6	2.4	200.0	14.9
Prospecting, Exploration and Mine Development	1.4	1.4	1.5	107.1	1.4

[1] Copper, lead, zinc and pyrite mines are included.
[2] Managing companies and Government.

G. POLICIES AND MEASURES

Legislation

36. The Government acknowledges that in order to achieve the aims and objectives for this sector in the SNDP, suitable incentives may have to be offered through appropriate amendments to the existing mining legislation (e.g. the Mines and Minerals Act, the Mineral Tax Act and other Acts) as also through the provision of background geological information required for planning prospecting programmes.

37. The present legislation—the Mines and Minerals Act—governing the activities of the companies is satisfactory and is in itself an inducement to the private sector. Government will continue to offer incentives for the unimpeded progress of all mining activities in the country.

38. Government will continue to act, in concert with the other CIPEC countries, for the realisation of a suitable copper price structure.

39. Regulations enforcing safe operation and healthy working conditions will be reviewed and the efficient use of manpower, materials, energy and equipment will be emphasised. The Government will be involved in planning to ensure that these aims are met.

Promotion Policy in Mineral Resources

40. The encouragement of prospecting in all fields by the private sector is of primary importance. Prospecting by the Government or a para-statal group will only be undertaken when there is no probability of activity by the private sector. However, the Government, in consultation with MINDECO and other para-statal bodies, will continue to concern itself with the development of industrial and building mineral resources, the promotion of small-scale mining and the conduct of joint primary prospecting with international agencies like the UNDP.

41. The Government will provide the background information and supporting services required for development. To this end, the Government will accelerate as far as possible the geological mapping of the country and will supplement and publish geological maps, as well as aeromagnetic and geochemical maps. The reports accompanying this data will include an assessment of the mineral potential of the area, a review of any prospecting completed to date and suggestions as to possible future approaches. The survey will continue to promote the use of newly developed techniques in the field of prospecting in particular, if necessary by undertaking experimental surveys to prove the local applicability of new methods and also by actively encouraging research.

Promotion of Production

42. MINDECO in its holding company and operating roles will continue to ensure the optimal development of the Zambian mining industry within the Zambian and international context. It will be the policy of MINDECO to ensure that planned production levels are achieved within the limits of available finance by close liaison in the fields of management, business, technical development and research. Of particular concern will be the development of improved extraction methods, the exploitation of low-grade ores, the recovery of by-products and the utilisation of waste products. MINDECO will monitor current exploration projects in order to encourage early profitable development. Every effort will be made to encourage investors from the private sector to exploit desirable projects. In cases where this is not possible, MINDECO in consultation with the Ministry will undertake prospecting, exploration and operating activities provided these are associated with potentially viable projects of direct concern to the State.

CHAPTER IV—MANUFACTURING

A. AIMS AND OBJECTIVES

Conditions for industrial growth

As indicated earlier, the Manufacturing Sector had by 1969 fulfilled or exceeded most of the plan targets set in FNDP. The share of manufacturing industry in the total GDP was planned to reach 7.6 per cent by 1970. In actual fact the share of manufacturing in GDP was already 9.6 per cent by 1968. This is a manifestation of the vitality of the sector and of the existence of favourable conditions to its fast growth.

2. A rapid development of manufacturing industries is, indeed, vital to any developing country that is desirous of achieving self-sustained growth. In its land-locked position and with its still prevailing dependence on vital supplies from abroad, this need is even greater in the case of Zambia. In the long term, industry must play a greater role in the economy.

3. The primary producing sectors dealt with in the preceding two chapters, i.e. agriculture and mining, are planned to grow at high rates. This provides for growing supplies of raw materials for secondary industries. At the same time the growth of other sectors and the increased employment that accompanies it, creates new markets for both consumer and capital goods. This possibility exists in principle but it will remain unrealised if those raw materials are exported and finished goods are imported. It is therefore planned that these possibilities will gradually be turned into realities during the plan period.

Main objectives of manufacturing in SNDP

4. In the course of the five years of SNDP, it is intended that the following objectives in the field of manufacturing industries are to be achieved:

fuller utilisation of existing capacities;
import substitution of food products;
import substitution of other consumer goods;
increasing import substitution of certain intermediate and capital goods needed by other sectors, *viz*—agriculture, mining, building, transport and by industry itself;
further processing of raw materials originating from agriculture and mining;
establishment of small-scale industries in rural areas;
contribution to the creation of additional employment;
promotion of export of manufactures.

5. The plan period will provide for a critical examination of the present capacities and operation of existing enterprises including the provision of adequate supplies of locally produced raw materials to local industries.

6. The particular emphasis on import substitution is largely explained by the size of the problem involved. In 1969, K147 million, that is almost one half of the value of all imports, was spent on the importation of finished goods, excluding machinery and equipment. There are possibilities of producing some of the machinery and equipment locally but most finished goods of this type will have to be imported for a long time to come. Consequently the problem of import substitution of other goods is of a very high order. Imports consisted mainly of manufactured goods, among them processed food and intermediate goods. This latter category comprises a wide range of goods used mainly by the mining and construction sectors. By cutting imports of finished and semi-finished industrial goods in all the production areas where market size and other techno-economic considerations justify the establishment of domestic manufacturing plants, and by expanding the existing production units, the SNDP will mark another significant stage in the diversification of industrial growth and thus further contribute to the achievement of a more balanced and stable structure of the whole national economy.

7. It is government's intention to minimise the food element of the import bill, taking into account the fact that with fast growing urbanisation, the domestic food demand is increasingly shifting towards processed food. Many processed food products can be made locally. The industrial processing of food has additional advantage of being capable of improving quality, enhancing storability, adding to nutritive values and ensuring hygienic handling of the various foods. The substitution of processed food imports is, therefore, one of the major objectives of the manufacturing sector in SNDP.

8. The substitution of imports of consumer goods other than food is also very important. Attempts will be made to rationally organise further import substitution in order to save foreign exchange, besides creating employment and the acquisition of new skills by Zambian workers.

9. With the experience gained during FNDP, the country has now reached the stage of industrial growth where it is desirable and possible to go ahead with the import substitution of certain raw materials and some machinery, as well as expanding that of consumer goods.

10. With the land-locked position of the country and with consequent high transport costs, it seems obvious that priority must be given to the development of those branches of industry which can find their essential raw materials from local sources, that is from agriculture or mining. The further processing of local raw materials provides a powerful stimulus to the growth of the primary sectors, and in the case of agriculture, therefore, significantly contributes to rural development.

11. The transformation of the primary raw materials into semi-finished and finished industrial goods normally turns perishable commodities into durable ones. It usually does away with a great part of the bulk and weight of the raw material and thus makes its transportation economically feasible. Further processing therefore not only adds to the local value added, but it sometimes makes exportation possible.

12. Throughout SNDP the objective of establishing small-scale industries in rural areas will be vigorously pursued. A great variety of industrial goods and services will be made available locally at competitive prices, and as long as they bring in reasonable returns, will serve as additional incentive to the farmers to produce cash crops. The non-agricultural employment provided by these local industries is another important factor in their establishment.

13. It is estimated that in 1971 the manufacturing sector employed a total of 38,200 persons. With all the additional employment which should be created by the development projects envisaged in the Plan, the total manufacturing employment is estimated to be 62,500 in 1976. This is an addition of 24,300 to the work force in manufacturing since 1971, an increase of 63 per cent. By 1976 the manufacturing sector might therefore account for 13.3 per cent of total wage employment in the country, as against 9.2 per cent in 1970, the largest increase in any sector and indicative of the rate of industrialisation. Thus a quarter of the total number of new jobs to be created during SNDP would be in this sector, which would also contribute indirectly to employment in other sectors by creating additional demand for primary goods, both as raw material for the new industries and as food for the growing non-agricultural population, as well as for services in trade, transport, etc.

B. MANUFACTURING PROJECTS

14. It is through individual projects that the aims and objectives of the Manufacturing Plan will materialise. In subsequent paragraphs some of the most significant projects of the Plan will be described. Some were started during the FNDP, others were planned for implementation during the SNDP, while a number are new projects that have now been included in the plan. There are also those which are clearly desirable and possible, but where details of finance, organisation and location have yet to be finalised before a firm commitment can be entertained. Lastly, there are a few other projects which are still at a stage of visualisation. To this last category belong projects which would fill some gaps, would respond to some existing demand, would seem viable and are, therefore, regarded desirable. Although not all projects are mentioned individually, Table IV–1 gives an overall picture of the growth of the manufacturing sector.

15. This chapter of SNDP for manufacturing is therefore an indicative Plan, outlining areas of productive activities which are necessary and desirable, and for which conditions exist now or will exist during the Plan period to make them viable enterprises. Certain projects will be undertaken by Government and para-statal agencies like INDECO, but many are included to be picked up and implemented by private industries.

Import substitution of food products

16. The growing demand for fresh as well as processed meat will be met by increasing the *meat processing* capacity. New plants include abattoirs at Lusaka and Mongu, pork processing at Chipata and poultry processing facilities at Lusaka and on the Copperbelt. Some existing plant will be modernised and expanded.

17. The demand is increasing for a greater variety of *dairy products* and the possibility of establishing further manufacturing capacity will be explored. A factory will be built to produce long-life milk and other milk products.

18. It is planned to manufacture biscuits in the country. The substitution of imports of other '*dry*' *bakery products* will be studied. Smaller bakeries are planned and mentioned among the small-scale industries.

Import substitution of consumer goods

19. The capacity of the Kafue Textiles will be expanded from the present 12 million metres of cotton fabrics to 25 million metres per year of cotton-polyester and rayon fabrics. Another expansion in the *textile* branch will take place in Kabwe where the present capacity is 5 million grain bags and 0.9 million metres of hessian cloth while the proposed capacity is 9 million bags and 2.7 million metres of hessian cloth. In addition to woven fabrics there is need for large quantities of knitwear. A *knitting mill* will partly sell its knitted product to garment manufacturers and will partly make it up in its own department into knitted outerwear and underwear.

20. A *tannery* was already planned in FNDP. According to a recent study a medium-sized tannery will find its market towards the end of the SNDP period. Gameskin tanning could be profitably undertaken.

21. Two *saw-mills* based on indigenous timbers are planned. One in the Zambezi Valley and another in the North-Western Province. These will produce mining timber, railway sleepers and flooring material. A further complex to produce sawn timber and particle board will be based on the pine and eucalyptus plantations in the Copperbelt. To this complex a pulp and paper mill will be added later. Construction of this complex will begin before the end of SNDP.

22. The *oil refinery* at Ndola will produce premium and regular motor petrol, diesel oil, fuel oil, liquid gas and bitumen. The annual capacity will be 1.1 million metric tons of refined products.

23. A *passenger car* assembly plant is being already constructed in Livingstone which will start production in SNDP. In the first phase, it will have an output of 5,000 cars per year.

24. Studies will be carried out into the possibility of establishing further consumer goods industries such as *refrigerators and other household electrical appliances, light bulbs and fluorescent tubes* as well as the assembly of *bicycles and mopeds*.

Import substitution of intermediate and capital goods

25. *Sulphuric acid* producing capacity will be expanded. Combined with it copper sulphate will also be produced. In spite of the fact that a plant of this kind statistically belongs to the manufacturing sector, it will be built under the aegis of MINDECO due to its close technological affinity with the refining and leaching of copper.

26. To meet the growing demand of agriculture for *fertilisers* the production capacity of the Nitrogen Chemicals at Kafue will be increased and new plants will be added to this complex to produce heavy chemicals.

27. The *explosives* factory at Kafironda will be expanded to meet all the requirements of the mining sector.

28. A factory will be built at Kapiri Mposhi to produce 20,000 metric tons of *glass containers* per year. Another INDECO-sponsored project will produce about 50 million plastic containers per year.

29. It is essential to support the construction sector by substituting the imports of *building materials* by local production. Preliminary studies show that opportunities exist in producing more cement, more asbestos products, various plastic goods used in building, ceramic whitewares, metal fixtures, electric fittings, steel structures and prefabricated building elements. Further studies will be carried out to establish the viability of these units individually. Several items of building materials will also be produced by small-scale industries.

30. Preparatory work has been done to equip an existing metal-working factory to produce 100 *bus bodies* per annum. The feasibility of producing more lorry bodies and trailers as well as *railway wagons* will be studied.

31. A report on metal working industries shows the need for another *cast iron foundry* and the opportunity to establish a plant producing *welded steel pipes*.

Further processing of raw materials

32. A critical issue of further processing of local raw materials is the production of semi-finished goods (*sheets, bars, profiles, pipes*) of copper and copper alloys. A project of this kind will help alleviate the deleterious effect of fluctuating copper prices on the Zambian economy while at the same time generating more value added within the country.

33. Already some steps have been taken in this direction by the establishment of the Zambia Metal Fabricators (Zamefa) factory at Luanshya producing *copper wires and cables*. The current production at the Zamefa plant is 2,000 tons per annum, but this is expected to reach 6,000 tons per annum in the near future.

34. INDECO is planning to build a new *brewery* with an annual output of 400 thousand hectolitres.

35. Further processing of agricultural raw materials will include a *fruit and vegetable canning* complex in respect of which studies are being made. The production of *starch* from cassava is also being studied.

Small-scale industries in rural areas

36. If it was found difficult to give exact data of the major industrial establishments planned for SNDP it is even more difficult in the case of small-scale industries to be established in the so far unindustrialised parts of the country. The lack of precise data should not be interpreted as the sign of inferior ranking of the latter in priorities set for the plan. In actual fact special efforts will be made to establish industries whether small-scale or otherwise as far as possible in areas which have not yet benefited from industrial development.

37. RUCOM Holdings alone, a fully owned INDECO subsidiary which is specially created to carry out the programme of bringing industrial development to rural areas, is planning to establish, in addition to non-industrial service units, four new *grain mills* and the extension of six existing ones, three *stockfeed mixing* units, twenty additional *bakeries* and twenty to thirty *workshop* complexes in the SNDP.

38. In addition to what RUCOM has already decided, it is worth pointing out the further opportunities for development of small-scale industries in rural areas. In the field of food industries small units could also make fruit syrups (to be diluted to taste by the customer), could preserve fish by drying, smoking or salting, could grind grains, etc.

39. Opportunities for small-scale industries in rural areas exist in the field of *building materials*. Eight new units will machine-form and burn altogether 160 million bricks. Small units could produce building timber and many other unsophisticated building components. Even paints could be produced from natural pigments. All this would essentially add to the solution of better housing for the rural people.

40. Small local *blacksmithies* could significantly contribute to the supply of farming implements and hand-tools.

41. During the Plan period the building of the Tanzam Railway will continue on Zambian soil. This opens up obvious opportunities to establish medium- and small-scale industries along the new line-of-rail, initially to serve the building of the railway to be followed later by serving its operation and maintenance. Such industries include the manufacturing of hand-tools, mechanised tools, screws and bolts, prefabricated building elements, uniforms, boots, foodstuffs, etc. These industries will have to be established in time, i.e. in the first half of the Plan period so that supplies can be made available as soon as needed; otherwise this special market cannot be secured.

42. A particular area of manufacturing development is the one devoted to the *employment of the disabled*. Experience shows that the most suitable activities serving that purpose are the making of brushware, brooms, mats, wickerware, umbrellas and the like. In co-operation with the Zambia Council for the Handicapped, the feasibility of establishing and running one or more of this kind of enterprise will be explored.

Plan targets for manufacturing

43. In order to arrive at overall plan targets for the manufacturing sector, first the various data of the year preceding the Plan, *viz* 1971, had to be estimated, and second, the individual estimates made in respect of the projects foreseen for the Plan had to be aggregated. Naturally, in addition to calculating the growth of the industry on account of new projects, allowance had to be made for the spontaneous growth and gradual expansion of existing enterprises.

44. The main targets are displayed in Tables IV–1, IV–2 and IV–3. A brief glance at the contents of these tables will show that manufacturing must go forward with great strides in the SNDP. The value added (which for all practical purposes can be regarded equal to the National Accounts notion of GDP) will grow twofold during the Plan period, an average annual growth rate of 14.7 per cent. No doubt, this is a very high growth rate but it is not without precedents in the recent history of several African countries. In actual fact, the growth of the manufacturing sector of Zambia itself was even speedier than this rate during FNDP. Nevertheless, it is important to note that such a fast growth cannot be achieved without taking very special efforts to fulfil the Plan in all respects.

Table IV–1—Development and Investment in the Major Groups of Manufacturing, 1969–76
(K million (1969 prices))

ISIC Code	Major Group	1969			Fixed capital investment 1972–76	1976		
		Gross Output	Value Added	Employment		Gross Output	Value Added	Employment
311–312	Food	47.0	12.6	5,600	17.7	70.0	22.0	7,890
313	Beverages	42.2	11.9	2,541	10.1	48.0	15.0	3,560
314	Tobacco	12.8	2.9	785	0.5	18.0	4.0	890
321–322	Textile and clothing	22.1	7.9	5,986	13.5	45.0	17.0	9,780
323–324	Leather and footwear	0.7	0.4	170	9.4	11.0	5.0	890
331–332	Wood and furniture	8.8	6.8	2,865	3.2	11.3	8.6	3,412
341	Paper	1.1	0.5	113	15.6	9.0	3.5	5,340
342	Printing	7.8	5.6	1,481	0.4	9.0	6.0	1,780
351–352	Chemicals	17.8	6.6	1,839	38.5	52.0	20.3	4,280
353–354	Petroleum products	0.3	0.2	34	29.9	22.6	11.1	450
355	Rubber products	5.6	3.1	976	2.2	7.5	3.5	1,080
356	Plastic products	0.4	0.3	51	1.9	2.5	1.3	360
361–362	Pottery and glass	0.4	0.3	51	7.3	5.0	2.5	540
369	Non-metallic mineral	19.9	10.5	4,100	6.3	22.0	12.5	4,450
371–372	Basic metal	—	—	—	57.0	95.0	28.5	7,000
381–384	Metal working and machinery	47.0	19.5	7,768	28.2	79.0	36.5	10,300
385–390	Other manufacturing	1.1	0.9	210	2.3	2.0	1.2	450
3	*Total manufacturing*	235.0	90.0	34,570	244.0	508.9	198.5	62,452

Source: Calculated from 'A survey of industrial development projects', Manuscript, Ministry of Development Planning and National Guidance, 1971.

Table IV–2—Growth of the Manufacturing Sector, 1969–76
(K million)

	1969	1971	1976
Gross Output	235.0	263.8	508.9
Value Added (GDP)	90.0	99.8	198.5
Employment	34,570	38,200	62,500
Increment of fixed capital	—	67.1	244.0
Index of Gross Output	89.1	100.0	192.9
Index of Value Added	90.2	100.0	198.9
Index of Employment	90.5	100.0	163.5
Annual rate of growth of Value Added	—	—	14.7

Source: Calculated from Table IV–1.

Table IV–3—Growth of Productivity in Manufacturing, 1971–76

	1971	1976	Index
Number of employees	38,200	62,500	163.5
Gross output per employee (K)	6,905	8,148	118.0
Value added per employee (K)	2,612	3,178	121.6
Fixed capital invested (K million)	164.4	408.4	248.4
Gross putput per fixed capital	1.6	1.2	75.0
Value added per fixed capital	0.6	0.5	83.3
Fixed capital per employee (K)	4,304	6,539	151.9

Source: Calculated from 'A survey of industrial development projects', Manuscript, Ministry of Development Planning and National Guidance, 1971, and from Tables IV–1 and IV–2.

45. It will also be seen from the tables that in order to achieve this growth, an investment in fixed capital alone is required to the order of approximately K250 million. There are no exact calculations available with regard to how much investment will be necessary to cover the corresponding need for working capital. Working on the experience of this country in the past and of other countries in a similar position, one can roughly assess the working capital at 60 per cent of the fixed capital, and this is a conservative estimate in view of the long distance of supply and delivery routes. If calculated on that basis, the amount of working capital that will have to be invested is another K150 million. So the total capital investment required during the SNDP will amount to some K400 million. This amount will be broken down to the five years of SNDP, approximately as follows: K54 million, K65 million, K80 million, K94 million and K107 million.

If all the necessary steps are taken—some of which are mentioned in the next section—one can safely estimate that about 70 per cent, i.e. K280 million, will come from private funds. The rest will have to be found from various Government and public sources.

46. A further study of the tables reveals the tasks in respect of productivity. Whether productivity is measured by gross output per employee or by value added per employee (both measures are fairly rough), labour productivity will be seen to increase by about 20 per cent in SNDP. From a very general viewpoint it may be argued that a growth of productivity faster than this could have been expected from the Plan. Two factors, however, militate against a faster growth of productivity. Firstly, a great number of new industries starting up in SNDP necessarily mean the streaming into the industry of a sizeable new generation of workers (about twenty-four thousand in all), whose training will almost invariably have to begin with the very simplest elements of industrial work. Secondly, when devising the individual projects, particular care was taken to choose the more labour intensive technology wherever there was a choice. Labour productivity cannot grow if we deliberately introduce into the labour force a number of workers who would, under conditions of more mechanised technology, be regarded as super-numerary.

47. Both the gross output per capital and the value added per capital are seen to decrease during the Plan. This is the result of introducing a number of strategic heavy industries (such as the petroleum refinery, the copper semi-finished mill, etc.), whose capital output ratios are less favourable than the average of an industry in which so far almost exclusively light industries were represented.

48. Another qualitative aspect of the Plan needs emphasis. It is shown by the tables that the structure of the manufacturing industry will perceivably be shifted from an overwhelming orientation to food and light industries, towards the more strategic, heavy industries. This is really a major event in the fight for economic independence.

C. POLICIES AND INSTITUTIONS FOR PLAN IMPLEMENTATION

Special promotion policy for agro-industrial projects

49. In accordance with the underlying policy objectives of SNDP, it is Government's intention that a great number of manufacturing industries based on agricultural produce of one kind or another be established. The establishment of such industries will create a powerful stimulus to agricultural producers to grow or to breed the specific commodities demanded by such industries.

50. General experience shows, however, that this stimulus alone is not sufficient to guarantee the production of these types of commodities exactly as they will be needed by the industries concerned. Supplies of raw materials to these industries have to be of very high quality and, what is more, a high degree of reliability is required in respect of the stability of this quality. Furthermore, agro-industries normally must be able to rely on regular supplies that will be forthcoming on time and all the time.

51. The conservative methods of developing agriculture, as a rule, usually prove insufficient to cater for these heavy requirements. This is the reason why in many parts of the world agro-based industries satisfy their requirements by establishing their own agricultural supplies.

52. There are basically two ways of establishing such agricultural raw material supply units. One way is to establish a farm, estate or ranch specialised to producing the raw materials required by the factory. The other way is to make contractual arrangements, usually with a very great number of surrounding farmers. These contracts normally provide for the supply of seeds or breeding stock as well as fertilisers, pesticide, etc., by the industry to the outgrowers, often as advances on the purchase price of the commodity. Such contracts are normally executed and supervised by a fair number of extension workers in the employ of the industrial company.

53. The season then is usually closed by organised grading and purchasing of the produce by the industrial company when immediately the loans in kind are also settled. This system enables the industry to plan its storage and production policies in a businesslike fashion.

54. In actual practice, most of the major agro-based industries use both methods simultaneously, i.e. the running of self-supply production units and contracting farmers. The right combination of the two ways depends on the availability of an appropriate farming community in the area, on the general position of agricultural development and on many other factors.

Training of industrial labour

55. The shortage of skilled labour has become the main bottleneck of rapid industrial development. Serious collaboration is necessary between industry and education at all levels to surmount the difficulties. Central policies are necessary appropriately to regulate the importation of manpower at skilled and higher technical levels.

56. The various full-time technical and vocational training programmes are fully described in Chapter X on Education and Training. With all the efforts made by education, it is obviously still going to be necessary for each industrial unit to organise its own system of on-the-job training for many more years to come. Technical training institutions can be expanded to extend all assistance to individual industrial units in designing their own on-the-job training courses, compiling the curricula, etc.

57. The experience of past years has shown that the best results are achieved when training in a particular job is combined with augmenting the general education of the worker. This is why on-the-job courses should include classes in more general subjects (literacy, arithmetic, economics, etc.), or participants should be encouraged to enrol in evening classes of adult education or in correspondence courses.

58. It has become necessary to revise the system of apprenticeship. In SNDP it will be phased out gradually and its functions taken over by training centres of the Commission for Technical Education and Vocational Training.

59. What has in many countries proved a successful method at university level may be tried at lower levels in our desperate need for technical manpower at all levels. The method in question is the one by which industrial companies offer scholarships or bursaries to individual students and at the same time bond them to spend a pre-determined minimum length of time (two to five years) with the company after finishing their studies.

60. The law on industrial incentives mentioned later should be so designed that the beneficiaries of any kind of government inducements are held responsible for Zambianising their personnel at all levels within a reasonable period of time. Obtaining the benefits of any incentives should be made conditional on how these requirements are met.

61. The Trade Unions should be requested to co-operate in the training of labour by establishing their own institutions of industrial training for adults. The Unions should do everything in their power to enhance the acquisition of skills and knowledge by their members in order to secure higher productivity, a higher standard of living and efficient Zambianisation.

62. The shortage of skilled labour is sometimes aggravated by a certain degree of migration. Industrialists should be advised to offer some kind of service benefits, in cash or in longer paid leave, to those of their workers with the longest service.

State participation

63. It is necessary that the details of the policy on state participation in industry be clearly defined and declared. The success of SNDP in industry will to a great extent depend on this detailed spelling out of the implications and implementation of this policy.

64. Manufacturing industry is divided into the following three groups:

(a) industries in which the State acquires a controlling interest;

(b) industries in which the State will participate even with less than a majority holding;

(c) industries which are entirely left to private initiative.

In the first category, the degree of participation will vary from 51 per cent shareholding to exclusive ownership, depending on the relative importance of the industry, the availability of finance and the merit of the individual case.

Industrial investment incentives

65. Government recognises the necessity for giving appropriate incentives to potential investors in the industrial sector in Zambia. In this connection, Government will formulate an Investment Code containing a system of incentives and guarantees.

CHAPTER V—ENERGY

A. AIMS AND OBJECTIVES

An adequate supply of energy in its principal forms of electricity, coal and oil is a key factor for achieving production targets of the SNDP.

2. In the past, Zambia has had to depend on external sources for almost all its energy supplies. As a result of the expansion of the generating capacity, Zambia will become a net exporter of electricity. There will also be an increase of imports of crude oil for refining into its various derived products to meet the expected demand growth and to improve the balance of trade.

B. ENERGY DEMAND AND SUPPLY

3. The Tables V–1 and V–2 give a summary of the energy demand and supply position, over the period 1972 to 1976.

Table V–1—Total Energy Demand, in 1,000 Tons Coal Equivalent: 1969–76

Sectors	1969	1971	1972	1976	Index 1976/1971	Annual rate of growth %	Structure of consumption % 1971	1976
Agriculture	20.6	27.3	31.8	57.5	210.6	16.1	0.7	0.8
Mining	2,330.3	2,516.5	2,743.8	3,680.0	146.2	7.9	61.1	53.9
Manufacturing and Construction	425.6	536.4	603.9	954.0	177.8	12.2	13.0	13.9
Transport	291.3	345.5	358.1	356.3	104.5	0.9	8.4	5.8
Commerce and Service	661.3	780.6	821.3	1,590.5	203.7	15.3	19.0	23.3
Exports	—	10.0	42.2	387.2	3,872.0	98.7	0.2	4.3
Total	3,609.0	4,116.1	4,443.0	6,825.5	165.8	10.6	100.0	

Table V–2—Total Energy Supply in 1,000 Tons Coal Equivalent: 1969–76

Type of Energy	1969	1971	1972	1976	Index 1976/1971	Annual rate of growth %	Structure of supply % 1971	1976
Hydro-electricity	1,917.0	2,341.0	2,643.0	3,927.5	167.8	10.9	56.9	57.6
Coal	952.6	948.6	902.7	1,209.3	127.4	5.0	23.0	17.7
Oil	638.4	725.5	796.3	1,615.5	222.6	17.4	17.6	23.7
Coke	94.0	94.0	94.0	66.1	70.4	—	2.3	1.0
Charcoal	7.0	7.0	7.0	7.0	100.0	—	0.2	0.0
Total	3,609.0	4,116.1	4,443.0	6,825.5	165.8	10.6	100.0	

C. PROGRAMME BY ENERGY SECTORS

Growth of Electricity Loads

4. The forecast of loads is based on an extrapolation of the existing demands which does not take into consideration unforeseen developments in the mining and metallurgical industries. The system demand and energy requirements double in the period 1971–76 which represents a growth rate of almost 21.3 per cent. This survey indicates that if the Kariba North Power Station is delayed beyond 1974, there will be a serious risk of plant and energy shortages. Hence every effort is being made to achieve timely completion of the project. The forecast also indicates that beyond the SNDP a serious shortfall both of energy and reserve plant capacity would occur. It is necessary, therefore, that some new project or projects are commissioned before 1978.

5. Any generation scheme will take four to five years before it becomes available for use. Therefore, to provide for the shortfall in 1978 it is required that in the SNDP, work should be started on construction of additional generating capacity. Provision is therefore, made to proceed with the second stage of the Kafue Hydro-electric Scheme consisting of the Itezhitezhi storage dam and the installation of two generating sets of 150 MW each in the Kafue Gorge Power Station. This will increase the capability of the Gorge Power Station from 1,800 GWh to

8,880 GWh per annum in addition to providing an extra installed capacity of 300 MW. In 1970, work was also started on the Kariba North Bank Power Station with an installed capacity of 600 MW. This station's first stage (150 MW) is expected to be commissioned in 1974, which will meet the expected power shortfall in that year.

6. The other project that has been included in the Plan is the *Maamba Thermal Project** which will be based on the utilisation of the middlings from the coal washery for which there is no other commercial use. Preliminary studies indicate that these middlings can sustain a power station of 110 MW† of installed capacity. The low cost of the fuel should result in the costs of electricity generated at this station to compare favourably with power produced at other thermal stations. When all these schemes are completed, Zambia will be self-sufficient in electric power for a period of time and even will be in a position to export energy. The complete picture of installed generation of power in Zambia is given in Table V–3.

Table V–3—Electricity Growth Indicators 1970–76

Item	1971	1976	Index 1976 / 1971	Average rate of growth %
Installed Generation Capacity (MW):				
Hydro:				
Kariba (North)	—	600	—	—
Kafue (Stage I)	300	600	200.0	14.9
Victoria Falls	88	108	122.7	4.2
Mulungushi	20	20	100.0	—
Lusemfwa	18	18	100.0	—
Lunzua	6	12	200.0	14.9
Kasama/Mbala	1.95	6.75	346.1	28.1
Mansa/Lumangwe	3	9	450.0	35.1
Thermal:				
Copperbelt	120	70	—	—
Lusaka	10	10	100.0	—
Mbamba	—	110	—	—
Diesel:				
Zesco (North)	3	7.9	263.3	21.3
Zesco (South)	1	3	300.0	14.9
Gas Turbine:				
Copperbelt	40	60	150.0	8.5
Zambia National Generation Total (MW)	619.95	1,633.65	263.5	21.3

7. There is a lack of comprehensive assessment of the hydro-electric potentials of the various major rivers of the country which is required to plan for future hydro-electric development. It is therefore planned to carry out a *complete survey of the power potential* of all the major rivers during the SNDP. In addition to studies on the transmission development of the integrated system which is available, a study of the future transmission grid for rural development will be undertaken. Economic considerations indicate that the possibility of construction of *new power stations below the existing gorge station on Kafue River* should be examined.

8. There are a number of rivers in Zambia which could be developed as multi-national projects, the development of which depends on agreements regarding water rights of the various countries involved. *The Luapula* and *Zambezi Rivers* have prospects of very large developments. The legal and technical aspects of these developments will be studied and priorities will be set up.

9. Economic viability is a major consideration, though certain non-economic *rural projects* have been included in line with the Government policy of opening up the rural areas by providing infrastructural investments. Care has to be taken to ensure that electricity supplies will be available for the needs of essential development projects in other sectors, even though these supplies may be uneconomic in the short term.

10. For the efficient and economic operation of the various power stations and to plan the proper flow of energy from these stations it is necessary that an independent *control centre* for Zambia should be established.

* Part of capital expenditure of the mining sector.

† Subject to changes.

Coal and Coke

11. The major coal consuming industry is copper smelting which takes approximately 60 per cent of the total production. Railways and cement and fertiliser factories are other main users together with miscellaneous smaller industries and public services such as hospitals and schools. The oil refinery planned for 1973 will introduce 268,000 metric tons of coal equivalent in heavy fuel oil and this together with dieselisation of the railways by the end of 1972, will reduce the total market to little over 700,000 metric tons per annum by 1975. It is hoped that the new thermal power plant at Maamba will restore the market to the original figure of more than 1.0 million metric tons per annum, by adding 0.4 million metric tons lower grade middlings (rejects) of the colliery's separation plant.

12. The market for coke is small and supply must continue to be imported at least for the foreseeable future. A feasibility study is currently being made for the production of formed coke.

Oil, gas and oil products

13. The new refinery at Ndola will provide Zambia's total requirements of liquefied oil gas, aviation turbine fuel, both grades of motor gasoline, illuminating kerosene and gas oil. Fuel oil is covered in paragraphs 14, 15 and 16. Small quantities of aviation gasoline will continue to be imported.

14. The potential market for *fuel oil* in Zambia in 1973 is of the order of 500,000 metric tons or 760,000 metric tons of coal equivalent. To give a degree of protection to the national coal industry the supply of an enriched or spiked crude oil to Zambia will be limited initially to 211,000 metric tons; this represents the minimum yield with the refinery programme being geared to the country's requirements of gasolines and middle distillates. This cutting back of fuel oil also will have the effect of reducing the quantum of crude oil transmitted through the Tazama Pipeline, thereby ensuring its utility substantially in its existing form for a longer period beyond the SNDP.

15. The Government has decided that the fuel oil availability will initially be allocated to the Ndola Lime Company (replacing imported coke), and the Kabwe–Kapiri Mposhi glass-making project (a new development in 1974) with the balance, except for a marginal quantity earmarked for the Dairy Produce Board's new plant in Lusaka, to be allocated between the two mining groups.

16. Fuel oil will represent the only fuel substituting coal in 1973; from an initial substitution of 268,000 metric tons of coal equivalent it is expected to rise thereafter in proportion to the demand for gasolines and middle distillates which will increase between 1973 and 1976 at a rate of 7.4 per cent per annum. The additional fuel oil will be consumed either in new industrial developments presently unidentified or absorbed in the two existing mining outlets.

17. The demand for *Liquefied Petroleum Gas* (*LPG*) for domestic and light industrial use is not expected to grow dynamically, largely due to the availability of electricity. A material increase in consumption in rural areas would depend on the level of tariffs to be established for proposed electricity generation; even if it is found that LPG could compete favourably with electricity, the increased demand in terms of volume would not significantly change the forecast (2,000 metric tons by 1976) reflected in the energy demand patterns.

18. The major consumer of *Liquefied Petroleum Gas* will be the Ndola Copper Refinery which at present imports naphtha as a fuel for the Asarco Furnace. These furnaces are designed to operate on gas and conversion will be made at the end of 1972. It is also assumed that a second Asarco Furnace will be erected, to be in operation from 1974; until such time as the oil refinery has sufficient availability of gas for the second furnace, the fuel requirements can be met by the refinery's supplying naphtha on a temporary basis. No other substitution of one petroleum fuel by another is envisaged as a result of the advent of the oil refinery.

19. It will be evident that in a land-locked country the total production of the refinery must be consumed internally; the possibility *of exports* to Zaire has been considered but because of the Zaire's understandable wish for their own refinery on the Atlantic coast this outlet cannot be regarded as a permanent export market.

20. A decrease of import value for liquid fuels of only K0.2 million is foreseen from 1972 onwards. The lower unit value of refinery feedstock, compared with that of refined products, is largely offset by the new market being created for fuel oil which will increase the volume of imports by more than 50 per cent.

GENERATION AND TRANSMISSION DEVELOPMENT 1972 - 76
Z A I R E
M O Z A M B I Q U E
KALUNGWISHI
KOMELENGE
MPOROKOSO
KIRENSHI
LUWINGU
MUNGE
MUMBULUMA FALLS
MANSA
SAMFYA
LUKASI
MWINILUNGA
SOLWEZI
CHILABOMBWE
KITWE
NDOLA
LUANSHYA
KASEMPA
ZAMBEZI
KABOMPO
KAOMA
KALABO
MONGU
SENANGA
SIOMA
MUMBWA
LUSAKA
MAZABUKA
MACHA
MONZE
CHOMA
MUZUMA
KAFUE
CHIRUNDU
KARIBA NORTH
KARIBA SOUTH
KAPIRI MPOSHI
MKUSHI
LUNSEMFWA
MULUNGUSHI
SERENJE
LUSHWISI
MPIKA
LUNDAZI
MSORO
CHIPATA
CHADIZA
KATETE
PETAUKE
FEIRA
Switch Stat only
330/88
LEGEND
EXISTING 1971.
PROPOSALS 1972-76
330/220/33 SUBSTATION VOLTAGE LEVELS
HYDRO-ELECTRIC STATION
DIESEL, EXISTING STATION
DIESEL, PROPOSED STATION

Geothermal Energy

21. The Rift Valley system which is responsible for numerous hot springs in adjac African countries indicates also the existence of geothermal manifestations in Zambia. preliminary survey will be conducted in order to locate promising geothermal anomalies wit view to assessing their value for exploitation of low-cost thermal power, particularly if they located in areas where other primary energy sources are scarce.

D. RURAL ELECTRIFICATION

22. The construction of the Tanzam Railway will affect the expansion of electricity of rural areas situated along the new transmission line of Mpika. All efforts will be made by Government to promote preparatory works on rural projects and include electricity as a fac for rural development. Lift irrigation and other types of programmes using power will considered for these areas as also in other remote rural areas where electricity will be m available.

23. It is necessary that a unified national grid of high voltage transmission lines sho cover all parts of the country. With the small loads and long distances between rural cent this proposition becomes very costly at the present time. However, all developments n proposed are designed to fit into this ultimate development objective as far as possible. Ev possible effort has been made to connect the rural areas to the main grid by transmission a distribution lines. A 66 kV line is under construction from the Victoria Falls Power Station Mongu which will electrify Sesheke, Senanga and other towns en route. Transmission lines w similarly be constructed from Chingola to Solwezi and Serenje to Mpika. The existing hyd stations at Lusiwasi, Mansa and Kasama will be extended. To cater for the large demands power in the Luapula Valley, a new hydro station is being considered on the Kalungwi River.

24. Any new transmission line required for strengthening the links of electricity supp to consumption centres will have to be constructed in such a manner that it will cross, as mu as possible, unelectrified rural areas. A study will be initiated to select the most benefic alternatives considering also location of possible mining and manufacturing industry duri the SNDP period and beyond.

25. However, even with the extension of transmission lines, some places will still be t far removed from supply lines. It is, therefore, proposed to install diesel sets for the electrifi tion of some isolated towns during the SNDP.

E. TRADE BALANCE

26. Table V–4 contains the import–export balance data related to electricity, coal and o

Table V–4—Energy Trade Balance, 1970–76

Energy	Balances	1970	1971	1976
Electricity ..	Balance GWh	3,249 (i)	3,563 (i)	520 (e)
	Value ('000 K)	16,245	14,252	2,080
Coal	Balance ('000 metric tons)	600 (i)	23 (i)	27 (e)
	Value ('000 K)	4,199	159	326
Oil	Balance ('000 metric tons)	436 (i)	482 (i)	1,056 (i)
	Value ('000 K)	8,700	11,500	16,600
Totals ..	Imports ('000 K)	29,144	25,991	16,600
	Exports ('000 K)	—	80	2,406
	Overall Balance Imports ('000 K) ..	29,144	25,911	14,194

(i) = import; (e) = export

F. CAPITAL EXPENDITURE

27. Capital expenditures for the energy projects during the SNDP are shown in t Table V–5 overleaf:

Table V–5—Capital Expenditure on Electrical Energy Projects
(K million)

Project	1972–76
Kariba (North)	53.3
Kafue (Stage I)	11.9
Kafue (Stage II)	56.0
Regional Projects	23.0
Control Centres	2.5
Municipality Schemes ..	17.0
Rural Electrification	4.4
Other Projects	24.2
Surveys and Research ..	3.8
Others	2.7
Total	198.8

28. The capital expenditure shown in Table V–5 will have to be concentrated on sustaining the prospects which, in the main, provide the Nation's wealth. Accordingly, K198.8 million required for the Energy sector in the SNDP is set aside for ensuring sufficient power supplies to the mines (K130 million) and the bulk of the remainder for reinforcement and improvement costs of the other existing systems. The Government will explore all possible sources of funds to finance the projects envisaged. In this respect, it is anticipated that more than 50 per cent of the total required will come from external sources and the remainder from Government in direct loans, limited grant-in-aid, indirect participation and internal sources.

G. EMPLOYMENT AND TRAINING

29. Through the period of the SNDP, the necessary manpower to efficiently staff the industry has to be obtained from home and abroad. Zambians already occupy the majority of the clerical, craft, semi-skilled and unskilled categories. They are greatly out-numbered, however, in the technical and professional categories. A serious effort will be made in order to bring about further positive changes in the employment structure. It is expected that employment and training will develop as shown in Table V–6.

Table V–6—Employment 1971–76

Structure	1971		1976		Total	
	Zambians	Total	Zambians	Total	Index 1976 / 1971	Average rate of growth %
Management	6	101	94	145	143.6	7.5
Professional/Technical/Supervisory	56	186	273	284	152.6	8.8
Craft/Artisan	135	271	443	443	163.5	10.3
Clerical/Administrative	204	273	432	432	158.2	9.6
Semi-skilled/Unskilled	1,768	1,770	2,477	2,540	143.5	7.5
Total	2,169	2,601	3,719	3,844	147.8	8.1

H. POLICIES AND MEASURES

30. The SNDP provides for a comprehensive energy policy aimed at controlling the development of all energy sources in the common national interest and co-ordinating the activities of the various energy sectors and authorities.

31. The availability of energy has special importance for the future development of Government policy to expand and diversify the Nation's industrial and agricultural base. Government, therefore, will control *production costs* of energy through legislative and other measures.

32. A number of possibilities exist for replacing certain imported fuels with locally produced energy resources either by direct substitution or by the substitution of one form of energy for another. These possibilities need to be studied carefully and action taken, where appropriate, within the framework of the proposed *co-ordinated energy policy*.

33. The Government will, in particular, consider the extension of electrification to *rural areas* by improved utilisation of local sources of energy by viable projects in which rural co-operatives will play a vital role. Steps in this direction will be taken by Provinces and districts in consonance with the overall national policy.

CHAPTER VI—TRANSPORT AND COMMUNICATIONS

A. OBJECTIVES AND PRIORITIES

One of the key projects in the SNDP is the construction of Tanzania Zambia Railway. This project has special importance in that it will open a new route of transportation that will not only contribute to further strengthening of a free flow of goods in foreign trade, so vital for economic independence of land-locked Zambia, but which would also be cheaper than the road transport route to Dar-es-Salaam and the railway routes to the ports of Mozambique and Angola. To secure the full benefits from the Tanzania Zambia Railway, it is necessary that the port capacity at Dar-es-Salaam is expanded in accordance with the future needs of Zambian foreign trade. It is anticipated that Zambia Railways will further expand its passenger and freight mobile equipment in future years.

2. Important objectives in the SNDP are the completion of the construction of roads already started as well as the construction of new roads. They will enable opening up of new areas. Due to the fact that capital resources are scarce it is desirable to encourage people in all areas to contribute in kind and in money to construction of feeder roads connecting their respective areas with the main highways.

3. To ensure the needed development of foreign and domestic tourism it is necessary to allocate adequate financial resources for the expansion of airports and the purchase of aeroplanes.

4. The increasing number of vehicles as well as the growing demand for fuel for other necessities will require expansion of the existing capacity of the Tazama Pipeline.

5. The level of development of the postal and telecommunications services, especially in many rural and suburban areas, is not adequate. It is, therefore, very important to develop these services which will contribute to better conditions of living for many citizens.

6. It is of prime importance to pay adequate attention to the maximum utilisation of the very expensive existing transport facilities. In connection with this it is necessary to contribute as soon as possible to a fair competition between road and rail transport.

7. The present condition of the city public transport is unsatisfactory. Bearing in mind that many citizens need public transport services, it is highly necessary to make adequate provision for this type of transport.

8. The implementation of the above-mentioned objectives during the SNDP will contribute to further consolidation of the country's transport and telecommunications system, link network, link various parts of Zambia and ensure an integrated economic development for the country.

B. PROJECTION OF GROSS INCOME AND EXPANSION OF SERVICES IN TRANSPORT, TELECOMMUNICATIONS AND POSTAL SERVICES

9. Available data for public transport and communications operators cover only a part of the total gross income in the sector. The unknown data are in road transport, i.e., a part of freight operators, taxis, buses outside the United Bus Company of Zambia, as well as charter air companies, travelling and forwarding agents, and the Tanzania Zambia Railway. The total gross income in the transport and communications sector is estimated in 1969 at K41 million. It is expected that the gross income in 1976 will reach K139 million—an increase of 73 per cent. The highest increases in gross income are expected in air transport (174 per cent), telecommunications and postal services (124 per cent), and the Tazama Pipeline (100 per cent). Railway transport will have an increase of 58 per cent and road transport an increase of about 33 per cent. The reason for a lower than average increase of road transport gross income is due to the fact that after completion of Tanzania Zambia Railway the activity of Zambia Tanzania Road Services will stop. However, while the gross income of freight transport will be reduced by 20 per cent, that of passenger transport is expected to increase by 110 per cent. Consequent upon these differential rates of development, the share of individual modes of transport and communications in total gross income in 1976 will change as compared to 1969. The shares of air transport, communications and the pipeline will increase significantly, while there will be decreases in the share of road and railway transport. Table VI-1 will illustrate:

Table VI–1—Gross Income of Transport, Telecommunications and Postal Services in 1969 and 1976
(K million)

Mode	1969		1976		Index 1976 (1969=100)
	Amount	Percentage of total	Amount	Percentage of total	
1. Road transport	28.4	35.2	37.7	27.2	133
Freight transport	16.9	20.9	13.5	9.7	80
Passenger transport	11.5	14.3	24.2	17.5	210
2. Railway transport	27.1	33.7	43.0	31.1	158
3. Air transport	7.1	8.7	19.5	14.0	276
4. Tazama Pipeline	6.4	7.9	12.7	9.2	200
5. Water transport, Travelling and Forwarding Agents	1.4	1.7	2.8	1.9	200
6. Telecommunications and Postal Services	10.3	12.8	23.1	16.6	224
Total	80.7	100.0	138.8	100.0	172

10. The physical volume of services will increase in 1976 as compared with 1969 in all modes except in road public freight transport. Road public passenger transport should significantly increase in both the city and inter-city sectors. It is expected that the total number of tickets sold by the United Bus Company will increase from 34 million in 1969 to 103 million in 1976. Public city transport will have the biggest expansion especially in the most densely populated urban centres: Lusaka, Kitwe and Ndola which will substantially improve the transport services to the population of these areas. It is foreseen that the number of buses in public city transport will increase from 193 in 1971 to 441 in 1976. The number of buses in inter-city transport will increase from 166 to 259. Taxi services have had very fast development in the past. The number of taxi licences increased from 255 in 1966–67 to 654 in 1969 and 872 in 1970. However, the planned expansion of public city transport will imply that a much lower rate of development of taxi services will be needed than in the past period.

11. The Zambia Railways expects a significant increase in passenger services. It is foreseen that passenger-km will increase from 1.5 thousand million in 1970 to 2.4 thousand million in 1976. At the same time ton-km will increase from 12.1 thousand million to 14.3 thousand million. Owing to modernisation and better organisation Zambia Railways will improve its services in passenger and freight transport.

12. Air transport services are provided mainly by Zambia Airways and to a much smaller extent by the Mines Air Services and Air Charter Companies. Zambia Airways envisages further important expansion by opening new routes, both domestic and international. The new international routes proposed are: Reunion (1972); Kinshasa (1974) and Addis Ababa (1976). The new domestic routes planned during the SNDP are: Solwezi–Mwinilunga (1972); Kawambwa (1974); and Siavonga and Lundazi (1975). During the SNDP period 1972–76, it is expected that passenger transport will increase from 8 to 12 per cent (intercontinental 8.0–8.5; international 9–12; domestic 10–12 per cent). Regarding freight transport, an increase of 7–22 per cent and cargo services special flight, an increase of 2.8 to 3.6 per cent are planned.

13. The Tazama Pipeline will transport petroleum products until 1973, and thereafter only crude oil. It is expected that in 1976 the Pipeline will transport a little over one million metric tons of crude oil.

14. Postal and telecommunications services will expand significantly in the SNDP. It is planned that the number of post offices and agencies will increase from 198 in 1969 to 392 in 1976. It is envisaged that all postal services will increase with percentages between 84 and 517. Telecommunication services are expected to have the following increases from 1969 to 1976: number of telephone connections from 51,000 to 85,000; number of telex subscribers from 215 to 700; number of public telegraph offices from 95 to 155. The increase of individual telecommunication services is foreseen with percentages between 33 and 723 per cent (internal telegrams 33; international cables 36; national trunk and local telephone calls 156; international telex calls 314; international telephone calls 633, national trunk and local telex calls 723 per cent).

15. Water transport has great importance in some areas which have no other transport facilities. It is expected that future development in this mode of transport will not have a big increase. Travelling and forwarding agents are expected to further develop their services.

C. INVESTMENT NEEDS AND SOURCES

16. On the basis of available data and other estimates it is expected that the total investment in transport and communications sector will reach K261 million. Sixty-one per cent of this will be financed from foreign sources especially from the People's Republic of China loans for Tanzania Zambia Railway as well as for the construction of the Lusaka–Mongu road. Regarding domestic sources, more than half will be financed from own sources of the transport, telecommunications and postal services undertakings and the rest from Government funds. (*See* Table VI–2.)

Table VI–2—Total Investment in Transport, Telecommunications and Postal Services by Modes, 1972–76
(K million)

Mode	Total	Domestic sources			Foreign sources loans
		Total	Budget	Own	
1. Road transport	83.1	62.6	42.6	20.0	20.5
2. Railway transport	178.5	19.6	10.1	9.5	158.9
3. Air transport	20.9	16.5	10.7	5.8	4.4
4. Water transport	3.1	0.9	0.9	—	2.2
5. Travelling and Forwarding Agents	1.0	1.0	—	1.0	—
6. Tazama Pipeline	25.0	8.3	—	8.3	16.7
7. Telecommunications and Postal Services	49.0	33.2	1.6	31.6	15.8
Total	360.6	142.1	65.9	76.2	218.5

NOTE—For roads it is assumed that external sources will finance about 60 per cent of the planned amount. The amount of K14.7 million regarding provincial roads is not included in the above figures. The whole amount of the Chinese loan for the Lusaka–Mongu road is included in the SNDP even though the work started earlier. Expenditure for the construction of the Samfya–Serenje road, which will be financed through a People's Republic of China loan, is not included.

17. The share of railway transport in the total transport and communications investment is about 50 per cent, while road transport has a share of only about 23 per cent. This relationship varies between different countries. In the majority of countries road transport has the greatest share in total transport and communications investment. However, bearing in mind that the construction of the Tanzania Zambia Railway is going to be very expensive, particularly due to its length, it is understandable that the share of railway transport in Zambia should be high. Telecommunications and Postal Services get the third place in total investment. Telecommunications constitute the major component here.

18. Comparing the share of domestic and foreign sources of investments in the transport sector we find that there are cases where the total amount comes either from domestic or foreign sources, while there are cases where the investment is distributed between the two sources. The former case is typified by the Tanzania Zambia Railway, almost completely financed by foreign sources, while travelling and forwarding agencies constitute an example of the latter case where their development is completely financed from domestic sources. (*See* Table VI–3.)

Table VI–3—Percentage Share of Individual Modes in Total Transport and Telecommunications and Postal Services Investment During SNDP and Percentage Share of Domestic and Foreign Sources

Mode	Percentage share of individual modes in total investment	Percentage share of domestic and foreign sources		
		Total	Domestic	Foreign
1. Road transport	23.0	100.0	75.3	24.7
2. Railway transport	49.5	100.0	11.0	89.0
3. Air transport	5.8	100.0	78.9	21.1
4. Water transport	0.9	100.0	29.0	71.0
5. Travelling and Forwarding Agents	0.3	100.0	100.0	—
6. Tazama Pipeline	6.9	100.0	33.3	66.8
7. Telecommunications and Postal Services	13.6	100.0	67.8	32.2
Total	100.0	100.0	39.4	60.6

Road Transport

19. The major portion of road transport investment, i.e., three-quarters, will be allocated for the construction of roads. Carry-over projects from the FNDP will absorb 54 per cent and new projects 46 per cent. The most important carry-over projects are the following roads: Lusaka–Mongu, Chingola–Solwezi, Livingstone–Sesheke, the last portion of the Great East Road, Chirundu Ferry–Mazoe Road, Feira Road, Kariba North Bank Access Road, and the Lusaka–Luanshya Road. The following new projects are planned: Solwezi–Mwinilunga–Ikelenge

DEVELOPMENT OF BITUMEN ROADS
FROM 1964 - 1976

Road with a connection to Lumwana Mines; Mpika–Kasama Road; Senanga–Kalabo, Samfya–Serenje and Nampundwe Mine Road. It is envisaged that the first three projects will be financed 60 per cent from foreign loans while the Samfya–Serenje Road will be financed by the People's Republic of China. The present road system of the Copperbelt and along the line-of-rail will be strengthened and the Magoye–Munali Hills Road widened. It is also planned to construct bridges at Chembe, Sioma and Lalafuta.

20. The investment in roads during the SNDP will enable further extension of bituminous roads from about 2,893 km at the end of 1970 to about 4,410 km in 1976. The latter length of the roads depends also on the loans. The investment will also contribute to improving traffic on significant lengths of paved and gravel roads.

21. Adequate maintenance of roads is of special importance for the safety of traffic, low operating costs, long life of vehicles, and future lower capital expenditure on roads. It is, therefore, very important that maintenance of roads should be given high priority attention. Also continuous research is needed to keep down costs.

22. The investment foreseen by the road transport operators will be mainly allocated for purchasing new vehicles as well as for the replacement of old ones. It is expected that over 60 per cent of the road operators' investment will be allocated for purchasing of passenger vehicles, i.e. buses and taxis.

Railway Transport

23. From the total planned investment for railway transport, three-quarters are planned to be invested in the new railway link between Zambia and Tanzania. The Tanzania Zambia Railway will link Dar-es-Salaam with the Zambia Railways system at Kapiri Mposhi and it is planned that the rolling stock of the two systems will be completely compatible, thus allowing direct discharge/delivery at any point along the line-of-rail. To ensure that the new railway line may give adequate service for Zambian exports and imports, it is very important that the capacity of Dar-es-Salaam port should meet the Zambian requirements. It is necessary to ensure that future port facilities are made available in accordance with the expected expansion of Zambian foreign trade.

24. Zambia Railways plans to buy new mobile equipment as well as to replace some of the old, for passenger and freight transport. From the total investment of Zambia Railways it is expected that more than 50 per cent will be allocated for mobile equipment. A significant amount of investment will be allocated for re-laying and replacement of track and new industrial sidings, additional housing for staff and replacement. During the course of the SNDP, Zambia Railways will switch to diesel traction of trains. This will bring about a reduction in operating costs and better service to customers.

Air Transport

25. The envisaged investment in air transport will be mainly allocated for the construction of airports. About 65 per cent of investment will be for airports, 30 per cent for further development of Zambia Airways, and the rest for catering to the Mines Air Services as well as for the Charter Companies.

26. The investment envisaged for airports comprises new projects (K8.7 million), and carry-over projects (K3.3 milion). The latter projects are: Ndola Airport, Civil and Electric Works and Terminal Buildings; the Lusaka International Airport Development Programme; and improvement of Solwezi Aerodrome.

27. The investments planned for new projects are expected to be financed from two sources, i.e., from Government funds (K5.4 million) and from external loan sources (K3.3 million). Using the resources of Government a number of airports will be improved. Foreign loans are planned for Ndola Airport—Aircraft Maintenance Organisation (K1.2 million) and new Luangwa South Aerodrome (K2.1 million). The former project should undertake the major overhaul of aircraft engines and airframes of Government, quasi-Government and private aircraft at present undertaken outside Zambia. The Luangwa South Game Park is one of the most prolific game areas in Africa and it is intended that a part of this park will be developed as a major wildlife tourist attraction.

28. Zambia Airways will, during the SNDP, achieve complete standardisation and rationalisation of its aircraft fleet. From total investment planned by the Zambia Airways of K5.9 million, almost four-fifths will be allocated for the expansion of the aircraft fleet with associated spares and workshop machinery. The rest will be for the new building of Zambia Airways on which work commenced in the First Plan period, and for providing additional housing and ground facilities.

Water Transport, Travelling and Forwarding Agents

29. Water transport is expected to be expanded only in the areas where the population completely or mostly rely on this mode of transport. The areas are rather limited to a part of Zambezi River, Lake Bangweulu and Lake Mweru. For purchase of new equipment and other needs, it is planned to invest K0.7 million.

30. It is estimated that Travelling and Forwarding Agents will invest about K1 million. The increase of economic activity, i.e., development of tourism and foreign trade, will have an expansionary effect on these trades.

Tazama Pipeline

31. The future development of the Tazama Pipeline is under examination only. However, it is estimated that the future development will require an investment of at least K25 million. It is foreseen that this amount will be financed from own sources (K8.3 million) and foreign loan (K16.7 million).

Telecommunications and Postal Services

32. Investment in telecommunications and postal services is mainly planned for further development of telecommunications services. From total forecast investment of K49 million more than 90 per cent is for telecommunications. The telecommunications plan provides for a network to serve people in both the urban areas and rural areas where in many cases telecommunications are at present inadequate, unreliable and often non-existent with the consequential result of making administration less efficient, and making it more difficult to raise the standard of living of the people.

33. The aims of the telecommunications plan are as follows: to provide an adequate service to meet the current demand, including the extension of the telecommunications network to all district centres; the construction of good quality trunk routes to all Provinces, with adequate capacity to meet the envisaged demands; the elimination of waiting lists for telephones in all urban areas; and improvement and expansion of external telecommunications.

34. The principal development projects proposed are as follows: replacement of sixteen telephone exchanges; extension of ten telephone exchanges; provision of forty-seven new automatic telephone exchanges to replace manual exchanges and to provide service where no service exists; provision of local telephone networks serving the new and extended telephone exchanges; construction of an earth satellite station, an international telephone exchange and an international telex exchange; the construction of microwave systems linking: Lusaka-Livingstone, Kitwe-Luanshya, Lusaka-Mongu, Chingola-Solwezi, Lusaka-Kasama, Kitwe-Mansa; the extension of trunk switching units at Livingstone, Lusaka, Ndola, Kitwe; provision of additional telegraph channels for the public telegraph service and for the telex network; additional junction cables: Kitwe-Kaluiushi, Lusaka-Chilanga.

35. The postal services development aims at overcoming the serious lack of postal services in the rural and suburban areas by building and equipping fifty-three new post offices and also by providing for the development of mobile post offices to serve the rural areas.

D. MANPOWER AND TRAINING

36. The number of employees in transport and communications has increased from 20,700 in 1966 to 23,090 in 1970. It is expected that during the SNDP, the number of employees in Zambia Railways will decrease by about 1,300. For an equal number work will have to be found somewhere else due to the fact that the Zambia Tanzania Road Services will cease work after the Tanzania Zambia Railway starts operation. The operation of this railway will give work opportunities to about 3,500 people. Considering both the decreases and the increases in the employment opportunities in the transport and communications sector as a whole it is expected that in 1976 the total number of employees will be about 28,300.

37. The data for 1970 show that in transport and communications there are 2,600 expatriate employees within a total of 23,000 employees. No doubt, it is necessary to introduce urgent measures to replace some of the expatriates with Zambian employees. There are two possibilities here. First, it will be necessary to send more ambitious and prospective Zambians for adequate studies in Zambia and abroad. Secondly, it will be helpful to find from among the existing employees capable, ambitious and prospective workers who can be given the opportunity to obtain additional training. In this way it will be possible, in a relatively short time, to have a number of Zambians who can take over jobs from expatriates who at present hold them on account of their skills.

38. Training centres in big enterprises should aim at increasing the ability of employees and also give them an opportunity to be acquainted with new approaches in different fields of their activities. It would be worthwhile to examine their training programmes and to obtain advice from different agencies of the UN.

E. POLICY MEASURES

39. Steps will be taken to contribute to better utilisation of the rather expensive existing transport facilities and at the same time bring about a reduction in transport costs, more rational allocation of scarce financial resources, and the possibility of utilising resources in other sectors more advantageously.

40. Consideration will be given to studies aimed at examining:

(*a*) financial resources for construction and maintenance of roads as well as the need for all-weather roads in Zambia;

(*b*) public city transport which is in an unsatisfactory state at the present time;

(*c*) self-help road building, especially feeder and inter-village roads.

41. Measures will be taken to improve law enforcement regarding overweight vehicles on the roads. This will reduce the costs of road maintenance.

42. Experience with the FNDP has shown that the machinery for the financing of projects undertaken by the General Post Office, and particularly Telecommunications, needs to be modified so that full advantage may be taken of the internal cash generation of the General Post Office during the SNDP. To this end surpluses on Current Account will be used to help finance new projects throughout the Plan period and the unused surplus from the FNDP will be made available for investment into the expansion programme which has already been outlined.

CHAPTER VII—BUILDING AND CONSTRUCTION

A. POLICY

The SNDP aims at the full employment of resources available to the building and construction sector and at increasing and improving the quantity and quality of these resources. The Plan period will see the expansion of the sector to meet the challenge of economic development and sustained economic growth. The Plan period will also witness an increase in construction demand in rural areas arising from housing investment in the proposed Intensive Development Zones and from the establishment of small-scale industries. Steps to increase the capacity of the industry in the rural areas as far as possible will therefore be taken as an urgent necessity.

2. Banks can be an important source of finance for the construction industry through the traditional practice of bank lending. Since the bank lending criteria and policy could not be substantially changed there has been a great need for providing some other sources of finance to enable small Zambian contractors to obtain the necessary funds for meeting construction demand.

3. It is essential that the country's planning potential be effectively harnessed, namely, the high grade skills inherent in the design and engineering fields of the building and construction sector, in the real interest of urban and rural development. Long-term planning must begin to operate more realistically and allow for the co-ordination of professional skills through the appropriate Government Department, which must be adequately staffed to meet the requirements of the SNDP.

B. DISTRIBUTION OF BUILDING MATERIALS

4. The building and construction industry has been experiencing serious problems of materials supply. This chronic shortage of vital supplies has threatened the smooth development of the industry. It has affected important national projects like the University Teaching Hospital and expansion programmes at the University of Zambia.

5. The use of more sophisticated building materials and components is largely confined to the line-of-rail Provinces. This is partly because transport costs become prohibitive outside this area, especially for the more heavy and bulky materials with a low value/weight ratio as well as for fragile materials. The situation is further aggravated by the non-existent or inadequate and unreliable distribution outlets in the rural areas. This state of affairs has served to limit the volume of construction work in the remoter areas, thus perpetuating the imbalance between urban and rural areas. The introduction of intermediate technology and building techniques in rural areas offers great scope for improving and increasing the quality and quantity of construction output in those areas.

6. The solution of supply problems in rural areas is of paramount importance for the performance of the building and construction industry in these areas and for the overall social and economic development of the entire country. This calls for the removal of all major supply bottle-necks and the establishment of an efficient distribution network in the rural areas. It entails the establishment of supply depots in rural areas—either by Government or by private business—to feed the rural areas with adequate building and construction materials.

7. The prices of materials are determined by sources of supply, the efficiency of the local construction materials industry and the demands in the mixed economy. Therefore, unless an effective distribution network is instituted to maintain steady and sufficient supplies, situations of scarcity are bound to arise, resulting in the disruption of the planned price structure. This applies to both rural and urban areas. To minimise price fluctuations, some form of effective price control is urgently required. Para-statal organisations, should also play a leading role in influencing the unification and stabilisation of prices.

8. There is great scope for substitution of imported input in the building and construction sector. This can be done either by expanding already existing plants or by establishing new firms to produce the required inputs from local materials. An expanded and efficient low-cost materials supply industry will be a serious policy objective for the SNDP. Small-scale industries could play an important role in this field. This could also lead to a substantial saving of precious foreign exchange and create employment opportunities. Investigations will be carried out into the feasibility of producing locally the requirements of timber and wood products, electrical materials, chemical products, non-metallic minerals and metal products.

C. MANPOWER AND TRAINING

9. The building and construction sector is suffering from a chronic shortage of artisans and supervisors. Manpower shortages are also particularly striking in the middle ranks where there is a serious need for technicians and foremen. The Commission for Technical Education and Vocational Training will produce 154 graduates at both diploma and certificate levels by 1976 with qualifications related to building and construction. The industry will require a turnout of at least 200 artisans annually during the Plan period. This means that more than 1,000 artisans have to be trained in one way or another during the next five years and the Commission's programme will not be able to meet these requirements during the Plan. It is therefore necessary to give more impetus to on-the-job training programmes. However, shortages of skilled and semi-skilled manpower will continue in this industry and in spite of all suggested measures, it will be necessary to provide a steady supply of qualified manpower from abroad.

D. PRODUCTIVITY AND WAGES

10. One decisive factor in enhancing the effectiveness of investments is the reduction of construction time. Slow construction leads to the immobilisation of funds, delay in the commissioning of enterprises and an increase in building costs. Great attention will therefore be paid to the strict adherence to time-tables and the earliest possible completion of all projects.

11. The SNDP will also aim at increasing labour productivity in building and construction. This will help to expand production and improve living conditions. Increasing labour productivity entails in the first place considerable improvements in the management practices which, in their broadest sense, cover activities such as: the propagation of progressive construction methods; decrease in the waste of labour time; reduction of material outlays; better utilisation of equipment and tools; expansion of specialisation and co-operation in production; improvement of the supply system; organisation of rhythmic work at construction sites, and better organisation of the labour force. In other words, the SNDP will aim at increasing output per man to a much higher level. Any wage increases will be in relation to a corresponding increase in productivity.

E. INSTITUTIONAL CHANGES

12. Legal and administrative procedures, practices and regulations regarding building and construction in general and public contracts in particular will be thoroughly and comprehensively revised in order to provide maximum protection for the public interest and to secure favourable conditions for the development of the industry.

13. Experience with the FNDP indicates that one of the bottle-necks in the fulfilment of the Plan and one of the reasons given for the non-completion of projects is the lack of staff. In order to help in the fulfilment of the SNDP all efforts will be made to ensure that the executive Ministries, which are primarily concerned with the physical aspects of the Plan, have sufficient qualified staff to carry out the Plan projects.

14. It is advisable that all major public building and construction projects be channelled through the one Ministry in charge of works, while enabling other Ministries to deal with specific minor projects of their particular speciality such as standard design health centres and the like. The Ministry of Power, Transport and Works will co-operate with all other Ministries wherever construction of their facilities is concerned, offering all necessary assistance.

15. The Government will pay particular attention to cost minimisation and price control of construction work with the view to keeping under constant review the prices of construction materials and the maintenance of appropriate design standards for all construction works.

F. THE SNDP FOR BUILDING AND CONSTRUCTION IN FIGURES

16. Tables VII–1 and VII–2 indicate the changes expected to occur during the SNDP. Prices are 1969, at factor cost.

Table VII–1—Construction Sector Projections for SNDP

Year	Gross Output (K million)	Gross Domestic Product (K million)	Wages and Salaries (K million)	Employment (thousand)	Productivity: GDP per man (in kwacha)
1971 ..	210	90.4	48.5	77.5	1,166
1972 ..	225	97.6	53.1	82·5	1,183
1973 ..	243	105.7	58.5	88.2	1,198
1974 ..	260	114.4	64.4	94.3	1,214
1975 ..	280	124.1	71.0	101.0	1,228
1976 ..	300	134.0	78.1	107.8	1,243
1972–76 ..	1,308	575.8	325.1	—	—

Table VII–3—Compound Growth Rates and Growth Indices

	Growth Rates 1972–76 %	Index 1976 / 1972
Gross Output	7.4	143
Gross Domestic Product	8.1	148
Wages and Salaries	10.0	161
Employment	6.8	139
Productivity	1.3	106.6

17. It is expected that the distribution of the Gross Output will be 60 and 40 per cent for the public and private demand, respectively.

18. For supply, it is estimated that the distribution will be approximately 80 and 20 per cent for the private and public sectors, respectively. It should be noted that the public sector provides for a considerable quantity of maintenance works, which accounts for the comparatively high involvement of the public sector in building and construction.

CHAPTER VIII—DISTRIBUTIVE TRADE

A. GENERAL

The social objective of distribution is to make supply meet demand under optimal conditions. These are expected to be at their best if the consumer is enabled to find the commodities he wants at the time, place, and in the shape and quality he needs, at a price he can afford to pay.

2. This means that goods must be produced in accordance with an acceptable specification of kind, quality and quantity; that they must be purchased as soon as sale-ripe, taken immediately to the place of probable consumption and kept there avoiding wastage and deterioration.

3. This emphasises the necessity of careful marketing research, serving as a basis for the definition of the location, type and size of transport and warehousing facilities in order to keep the population supplied with vital commodities, even if under adverse ecological conditions.

B. WAREHOUSING

4. Trading rates in agricultural areas indicate that there are three months of relative abundance after a good harvest, and nine months of relative scarcity afterwards. Proper storage facilities for grain crops at the village level, combined with cash lending based on stored-in-bond crops, a good off-take price policy and rural milling might be useful, particularly if storage and off-take are extended over other rural products and supply of rural requisites is merged with other trading operations.

5. Provision will be made during the SNDP for the rational handling and storage of national reserves of foodstuffs, including adequate quantities of vital grains, dairy products, meat and other items of importance.

6. All areas having a population of more than 10,000 people should have appropriate storage facilities for all agricultural products normally consumed in the area, harmonising their capacity with the rate of consumption of particular products, length of season in which available and time for which the goods can be preserved.

C. TRANSPORTATION

7. Rural transport difficulties represented a major obstacle to rural development during the FNDP. This must be given priority attention during SNDP. Considering the poor condition of many rural roads, appropriate types of vehicles, and even beasts of burden, must be employed for transport of goods. Greater attention should be given to transportation by air between distant major trading centres not easily accessible by road. Facilities for the repair and maintenance of road vehicles will have to be provided where not available now, along with servicing stations for agricultural, road-building and earth-moving machinery.

8. One of the lessons that the FNDP provided is that machinery and equipment of all types could not be properly utilised because of lack of spare parts and trained mechanics. In the SNDP, only such road vehicles and agricultural and building machinery will be allowed to enter Zambia, whose manufacturers and/or representatives will continuously keep in Zambia an adequate stock of spare parts and also provide for special training of a sufficient number of mechanics to keep the machinery and vehicles in working order.

D. CO-OPERATION OF TRADER AND PRODUCER

9. Of all tradeable goods consumed in Zambia, more than 55 per cent are imported. This fact calls for a particular effort to reduce the rate of imports. Trading organisations should be the first ones to take up the challenge. Besides the well known fact that imports can be lessened by a proper selection of trading partners and strict observance of exchange control regulations, much can be done by active co-operation between trader and manufacturer.

10. Membership of Chambers of Commerce and Industry must be made obligatory for all registered productive organisations and trading companies. Chambers of Commerce are intended to co-operate with the Government tendering advice on all matters regarding furtherance of Zambian economic development.

E. EXPORT AND IMPORT BUSINESS

11. Besides the general necessity to limit foreign trade to a definite number of specialised wholesale importers and manufacturers, it is also essential to limit the re-export business exclusively to public corporations. Further, in order to secure satisfactory implementation of bi-lateral commercial agreements, it is necessary to establish a public foreign trade corporation to deal with such business.

F. CONSUMER PROTECTION

12. The Government will seek to provide protection to the consumer through appropriate measures of market inspection and price control.

13. To achieve this aim Government will gradually establish all necessary facilities securing co-operation and avoiding duplication with the Sanitary Inspection and the Customs-house identification of goods.

14. In order to make consumer protection more efficient, the Government will proceed with the establishment and operation of a National Bureau of Standards providing for national specifications of goods marketed and otherwise used in Zambia, starting with those of more general significance.

G. TRADING FINANCE

15. It is envisaged that commercial banks will deal with all kinds of commercial financial operations, including provision of working capital for both productive and distributive business organisations.

16. Fixed capital investments in trading, forwarding and warehousing facilities are supposed to be the domain of the Development Bank, which will come into operation during the SNDP.

H. EDUCATION AND TRAINING

17. Apart from existing clerical and managerial educational institutions providing for business operatives and executives, there is a particular type of education and training needed which is connected with numerous services that cannot be separated from trading in a great variety of industrial and household appliances and apparatus. In future trading licences for definite mechanical and electrical apparatus will be pre-conditioned by the provision of servicing workshops, liable to Zambianise within five years. The rule should be more strictly applied whenever more vital elements of plant are concerned.

I. DISTRIBUTIVE TRADE IN FIGURES

18. The development plan of distributive trade expressed in terms of its volume, origin of goods traded, value added, i.e. Gross Domestic Product at factor cost, the GDP structure, company capitals and their probable origin, employment, earnings and productivity, is comprehensively represented in Tables VIII–1 through VIII–4. In the tables constant 1969 prices have been used throughout, except where otherwise stated.

Table VIII–1—Tradeable Consumption (Gross Output of Trade) in SNDP
(At constant market prices)
(K million)

Year	Value of Trade at retail prices				Foreign currency component in imported goods
	Total	Index	Domestic goods	Imported goods[1]	
1971	574	100.0	248	326	204
1972	605	105.4	261	344	215
1973	636	110.8	277	359	222
1974	667	116.2	292	375	231
1975	702	122.3	300	392	240
1976	738	128.6	328	410	249

[1] Includes domestic value added on imported goods.

Table VIII–2—Value Added (GDP) of Distributive Trade and its Structure
(K million)

Year	Value Added	Wages and Salaries	Depreciation	Taxes	Net Profit
1971	135.9	48.5	10.7	30.7	46.0
1972	144.5	51.6	11.6	32.5	48.8
1973	153.6	54.8	14.4	33.8	50.6
1974	163.3	58.3	15.4	35.8	53.8
1975	173.6	62.0	16.6	38.0	57.0
1976	184.6	65.9	17.6	40.5	60.6

Table VIII–3—Employment, Earnings and Productivity in Trade

Year	Wages and salaries	Average annual salary	Number of employees	Gross Output	Gross Output per man	Value Added	Value Added per man
	K million	K		K million	K thousand	K million	K thousand
1971	48.5	1,758	27,588	574	20.8	136	4.9
1972	51.6	1,846	27,952	605	21.6	145	5.2
1973	54.8	1,938	28,276	636	22.5	154	5.4
1974	58.3	2,035	28,649	667	23.3	163	5.7
1975	62.0	2,137	29,013	702	24.2	174	6.0
1976	65.9	2,244	29,367	738	25.1	185	6.3

Table VIII–4—Trade Targets in the SNDP
(At constant 1969 prices)

	1971	1976	Index 1976/1971
Volume of trade (K million) ..	574	738	128.6
Value Added (K million) ..	136	185	136.0
Employment (thousands) ..	27.6	29.4	106.5
Wage Bill (K million)	48.5	66.0	136.0
Productivity: Value Added per man (kwacha)	4.926	6.286	127.6

19. As to finance, it is anticipated, that the net operating surplus generated by distributive trade will amply suffice to cover its own investments in fixed assets and working capital. It is, moreover, expected that some of those funds will be made available for investment into other economic activities. Potential investment funds accumulated by trade during the SNDP are estimated to attain K245 million. Approximately K130 million—whereof K55 million for fixed capital investment and K75 million for working capital—will be probably absorbed by trade itself, leaving about K115 million free for investment in other ventures.

20. The higher growth rate of Wage Bill against Employment, as shown in Table VIII–4, results from prolonged part-time employment of existing personnel in rural trading centres and a generally higher productivity of labour in distributive trade.

CHAPTER IX—TOURISM, CATERING AND CULTURAL SERVICES

A. OBJECTIVES AND PRIORITIES OF TOURIST INDUSTRY

International tourism is a US $15 billion export industry which accounts for about 7 per cent of the total world exports. This amount of money was spent by nearly 140 million people in 1970.

2. Tourism is a fast growing industry which yields, apart from other benefits, foreign exchange earnings which include not only foreign tourists' spending, but also foreign exchange savings realised after inducing residents of Zambia to spend holidays within the Republic. In pursuing the SNDP's policy of bringing economic activity to the rural population, it is accepted that the tourist industry's development during and after the SNDP period will enable a fuller utilisation of the natural resources which are located away from the major centres of economic activity, thereby bringing incomes and employment to the rural areas where these are most needed.

3. The demand for tourist facilities originating from the European and American continents has risen and is rising fast as incomes and standards of living improve in these two continents. This factor, coupled with cheaper transport, is leading to increasing curiosity on the part of people in developed countries about Africa, including Zambia.

4. In recent years, African wildlife has come to be recognised and accepted as one of the world's top tourist attractions. Zambia is fortunate in possessing a fauna of unusual variety and interest. In the past, little was done to conserve the country's wildlife resources or to develop their economic potential through tourism and other means.

5. Zambia has some of the best and unspoiled tourist attractions in Africa and to capture a fair share of the expanding market, Zambia's industry has to be developed to an adequate stage quickly and extensively.

6. The tourist traffic that Zambia handled in 1970 and the volume of the resulting revenue were less than that handled by Kenya ten years ago—when she received about 25,000 tourists who spent K4 million per annum. A sample survey conducted in selected hotels, covering nearly 60 per cent of Zambia's total available hotel accommodation, suggests that the number of foreign tourists who visited Zambia in 1970 was about 20,000. The foreign exchange receipts from these foreign tourists were estimated at K2.5–3.0 million.

7. The SNDP programme aims at the development of tourist attractions right from the base upwards. This includes investment in infra-structure such as aerodromes, roads and bridges and direct tourist activities like accommodation in urban and rural centres, and secondary tourist service industries.

8. Because of the high cost of the infra-structure in the newly developing tourist complexes, it is necessary that the public sector should be responsible for providing the initial roads, aerodromes and service facilities. Once Government has established these facilities and has indicated its intention to support the development of the tourist industry, then this will provide the incentive to the private sector to invest in the tourist industry by the financing of game lodges and other tourist facilities.

B. DEVELOPMENT PROGRAMME

Demand of Local and Foreign Tourists

9. The demand for facilities by foreign tourists is enormous. The tourist facilities that Zambia will provide and the conditions that the tourist will find in Zambia in the long run will determine the number of tourists and their spendings. The demand for facilities by local tourists will only supplement that of the foriegn tourists, because it is mostly restricted to weekends. All these considerations indicate that Zambia should develop her tourist industry urgently and effectively.

10. Table IX–1 contains the main indicators of tourist industry development envisaged in the SNDP. A growth rate of 16.5 per cent per annum in the number of foreign tourists coming into Zambia is envisaged, and a growth rate of 22.9 per cent per annum in earnings. The difference in the growth rates between the number of visitors and the revenue earned is explained by the fact that as more tourist facilities are provided in the form of entertainment, safaris and hunting, duty free shops, etc., the tourists will tend to spend more money during their visits apart from that spent on food and accommodation.

Table IX–1—Projected Visitors' Nights and Earnings: 1970–76

	1970	1976	Annual Percentage Growth Rate
Foreign visitors	20,000	50,000	16.5
Foreign visitors' nights	100,000	290,000	19.4
Earnings (in K million)	2.75	9.5	22.9
Bed capacity in hotels and lodges ..	2,200	4,000	—

Integrated Development and Tourist Centres

11. In developing tourism, the parties concerned with making the industry a success will have to conform with the schemes drawn up for the industry. This will include not only Government departments like Customs and Immigration, Roads Department, Wild Life, National Parks and Fisheries, the National Tourist Bureau and Cultural Services, but other agencies concerned like the hoteliers and caterers in general, retailers, airways and those engaged in services allied to transport. The success of the industry will depend on the co-operation and contribution of all these agencies.

12. The public sector will lead the investment programme in the tourist industry by providing necessary infra-structural facilities. Such a role, when effectively pursued by the public sector, will provide the private sector with enough assurance to participate in the development of the tourist industry.

Investment Needs and Sources of Finance

13. It is estimated that over the SNDP period about K25 million will be raised in the form of public and private, domestic and external funds for the development of the tourist industry and related activities. This expenditure will establish the required infra-structure of the South Luangwa Valley Project, as well as provide for the expansion of existing accommodation capacities by 1,800 beds.

14. The Luangwa South National Park is potentially a first class tourist attraction and, when developed, will favourably compete with other tourist attractions in Africa. To develop the Luangwa National Park to its required initial stage, capital will have to be expended on the improvement and maintenance of the interior of the Park, including wildlife conservation, and on the construction of lodges justifying all other infra-structural investments related to this Park. The required capital investment in the Luangwa Valley development is estimated at approximately K9–10 million.

15. Funds have to be raised for the development of the other two national parks, namely the Sumbu and Kafue National Parks, to make adequate tourist facilities available.

Employment and Manpower Training

16. The significant increase in tourist traffic, especially of foreign tourists, in the years to come will enable a substantial increase in the number employed in the tourist and catering industry. It is estimated that the number of people employed in the tourist industry will increase over the SNDP period by some 50 per cent, from about 6,000 in 1970 to 9,000 in 1976.

17. It is important that the standards of services provided in the tourist industry are high and competitive. The Hotels Board, the hoteliers and the Tourist Bureau will have to expand existing and establish new training programmes. This is necessary if the growth of the industry is not to be arrested by shortages of adequately trained manpower.

Measures for Implementation of Tourist Programme

18. The country's tourism development policy will be based on a selection of those targets which are realistically attainable and have at the same time the best prospects of producing maximum socio-economic benefits. The following considerations need emphasis:

(*a*) The need to provide the necessary infra-structural investments during the SNDP period.

(*b*) The encouragement of private investment in the tourist industry.

(*c*) In view of the importance of air transport to future tourist development national air transport policies need to be amended to enable the country to derive full benefit from the potentiality of tourist air transport.

(*d*) All present regulations, procedures and facilities affecting the movement of passengers need to be re-examined and plans for new procedures and facilities made.

(*e*) As there is a serious shortage of trained hotel staff adequate training courses have to be provided.

(*f*) By improving communication to all–weather standard the tourist season can be significantly extended in some parks.

(*g*) The advantages of the establishment of a joint organisation for the promotion of tourist trade by interested countries of the East and Central African sub-region should be examined.

(*h*) An increased publicity activity aimed at tourist promotion should be undertaken.

(*i*) It would be desirable to examine the feasibility of transforming the Zambian National Tourist Bureau into a para-statal organisation, entrusted to deal with all relevant aspects of the tourist traffic and development of tourist facilities, so as to bring about a faster growth of the industry in the years to come.

C. CULTURAL SERVICES

19. The Cultural Services programme aims at restoring Zambia's valuable culture, providing entertainment to visitors, offering recreation to the citizens and bringing earnings to the people of the rural areas as they will find a chance in the cultural centres to market their skills and crafts to fellow-Zambians and foreign tourists. The cultural village in Lusaka will organise cultural activities at the national level and act as support and encouragement to cultural activities throughout the Republic. The cultural centres will conduct traditional music, art, drama and craft production.

20. To this end the SNDP provides for the establishment of cultural centres in the Provinces and in Lusaka, and also for the improvement of Museums.

21. One of the aims of implementing the cultural service programme is to provide support for the development of the tourist industry.

D. MASS COMMUNICATION SERVICES

22. The programme caters for all branches of mass communication which include sound and television broadcasting, national news agency and Zambia Information Services. Through these services Government disseminates policy, information and public education essential to facilitate social and economic development. Apart from the development and consolidation of information and other publicity services, an important project envisaged for the SNDP is the systematic and co-ordinated development of the national sound and television network under a single and unified administration in Lusaka. The programme envisaged in the field of Government information and other publicity services includes the consolidation of the news agency services, the strengthening of the mass communication offices and the facilities in the provincial and district centres; replacing and purchase of new vehicles for carrying the activities of the services to remote areas, including mobile cinemas, film production, exhibitions, shows, etc.

E. SPORTS ACTIVITIES

23. The sports programme provides for the establishment of sports facilities in rural areas where facilities and participation are minimal, the extension of facilities in urban areas where they already exist and the establishment of a nucleus of sports activities in Lusaka to carry out the administration, training and planning for sports in the Republic. In the programme for games priority will be given to football which is to act as a source of funds and stimulant for other kinds of sports such as athletics, swimming, netball, boxing, etc.

24. Funds for capital investment in sports facilities should be forthcoming, apart from the Government, from municipalities, business, institutions and individuals, as well as from international organisations who wish to stage competitive events in Zambia.

F. TOTAL INVESTMENT OUTLAYS

25. The total investment outlays in the SNDP (public and private) for the development of tourism and related activities (cultural services and sport activities), radio and TV are estimated to be K33 million. It is assumed that K23 million will be raised from public sources (domestic and external), K15 million for tourism and related activities and K8 million for radio and TV. In addition, K10 million private (domestic and foreign) funds are expected to be invested in the tourist industry. A total investment of this order is clearly necessary if the physical targets in respect of tourism and other activities are to be achieved.

CHAPTER X—EDUCATION AND TRAINING

During the period since Independence, the structure of the educational system has been significantly changed, and in numerical terms the system has been transformed. The Second Plan in Education and Training provides for continuing quantitative growth, at all levels and in all sectors. Moreover, the Plan recognises that the uses to which education can be put are very different now than they were in 1964. In particular:

(*a*) Employment opportunities have diversified out of all recognition. The need for pre-vocational and vocational preparation is therefore acute and the Government's response to this need is reflected in the new secondary school curriculum, the massive provision for technical education, and the strengthening of professional Schools at the University.

(*b*) The annual output from schools, especially primary schools, far exceeds the growth of new wage-earning jobs. This means that increasing numbers of boys and girls must be prepared in the best way possible for self-employment, hopefully in their own communities, whether rural or urban. The Plan takes account of this new situation in several ways: by proposing a new direction for the primary school curriculum, providing fresh initiative in the field of post-primary skills training, encouraging the use of school facilities to train those who are out of school, and by strengthening the educational services which are specifically designed to enable men and women to make more use of the schooling they have already received.

A. PRIMARY EDUCATION

2. Although primary enrolments doubled between 1963–70 and rose by 48.2 per cent between 1966–70, it has become apparent that the goal of universal primary education is much more difficult to achieve than was expected. The pace of expansion in the Second Plan will be governed by the large financial outlays required in other educational sectors, as well as by the present state of strain in the primary system. The physical overloading of the system must be relieved, and it is equally essential to enable a far higher proportion of children to complete the full seven-year primary course.

3. Accordingly, the main objectives for the expansion of primary education in the present Plan are:

(*a*) to provide sufficient new lower primary streams to keep pace with population growth.

(*b*) to provide sufficient new upper primary streams to achieve a national progression rate of 80 per cent from Grade IV to Grade V by 1976.

These are the minimum objectives consistent with national aspirations in the educational sphere, and every effort must be made to improve upon them as the Plan proceeds.

4. Reliable comparisons between population and enrolment, and therefore accurate planning, will be impossible until census data are properly analysed, compulsory birth registration implemented, and the age of admission to Grade I strictly controlled. Despite uncertainties about age group data, and the known spread of ages among Grade I pupils, planning must start from estimates of a single-year 'Grade I' age group. As in the First Plan, the seven-year age group is taken for this purpose.

5. The seven-year-old population is expected to increase by 20,000 between 1972–77. At 40 pupils per class, an annual average of 100 new Grade I classes must be opened during the Plan period to match population growth.

6. The experience of the First Plan demonstrates that population movement is at least as important a factor in educational planning as the rate of population growth. Migration within rural areas and between rural and urban areas has made for bad siting of schools and serious underestimation of requirements, especially in towns. Continuous systematic studies of migration are essential to provide the basis for sound and economical national planning, including a more realistic allocation of resources by region. Within regions, the planning and siting of schools will continue to depend on local surveys of the child population in villages and townships, and local estimates of population movement.

7. New Grade I classes will be distributed, therefore, in accordance with regional population growth rates. A heavy investment must be made in those regions whose populations have been swollen by migration. At the same time, the rise of rural growth centres must be provided for. Within regions, preference in siting schools will be given to new village settlement schemes and townships.

8. The new Grade V streams will be concentrated in the rural areas, in order to redress their grave shortage of upper primary places. The Grade IV–V progression rate in these areas will be raised from around 60 per cent in some cases to 75 per cent. In addition, it is intended to provide sufficient Grade V streams in urban areas to maintain the present high rates of progression. In order to achieve a national continuation rate of 80 per cent by 1976, an annual average of about 130 new upper primary streams will be required.

9. Table X–1 shows the projected expansion in classes and enrolments over the Plan period.

Table X–1—Projected Growth in Government and Aided Primary Classes and Enrolment, 1971–76

	Classes (in Grade)			Enrolment (in Grade)		
Year	I	V	I–VII	I	V	I–VII
1971	3,343	2,048	18,730	128,660	81,050	726,700
1976	3,893	2,794	22,942	151,400	108,700	880,300

10. In addition to the development programme described above, strenuous efforts will be made to consolidate previous gains by eradicating the backlog in school building, vigorously attacking the problem of replacing decrepit classrooms and teachers' houses, improving the provision of essential services like water and electricity, eliminating triple sessions in lower primary schools and reducing the number of double session upper primary streams, and extending facilities for practical subjects in the upper primary sector.

11. Table X–2 presents the estimated capital cost of the proposed programme.

Table X–2—Primary Education: Capital Estimates, 1972–76

(K thousand)

Programme	Estimated Cost
Development	15,773.6
Replacements	3,155.8
Practical rooms	2,500.0
Carry-overs	900.0
Services	900.0
Emergency repairs and contingencies	630.0
Building transport	360.0
Total	24,219.4

12. *Building Costs and Organisation*. The success of this programme will depend largely on the efficiency of the Ministry of Education's building organisation.

13. On the basis of systematic investigation by the Ministry's Primary School Building Research and Development Project, improvements will be made in the administration and supervision of the primary school building programme, in the system of cost estimation, cost control, transport and the training of building staff. More economical and functional prototypes will be developed by staff of the Project, tested and introduced. Provided that acceptable standards can be assured by adequate supervision, the provision of labour and production of building materials by local communities will be encouraged. Taken together, these measures will effect substantial economies in the primary school building programme. A small provision for the operating costs of the Project is included under 'Ministry Headquarters' in Table X–12.

14. *Primary School Curriculum*. The new Zambia Primary Course will be systematically extended to cover the whole primary school system. This course already marks a great stride away from the old system of passive learning. It attempts to foster alert and informed young people, at home in English as well as their own language, who have achieved a sound general education and have a keen understanding and appreciation of their own society and culture. There will be no departure from these essential aims.

15. However, a curriculum must change in order to remain useful, and the objectives of the primary school curriculum must now be interpreted in the light of the fact that, for many years to come, most children will receive no more than seven years of full-time schooling. Few of these young people will enter wage jobs or further training. The primary school must, therefore, help children to prepare themselves for a productive life in their communities, whether rural

or urban. It should foster children's self-confidence and self-reliance, by arousing vocational interests and teaching practical skills, and by helping to make intelligible the social and economic changes which their communities are undergoing. The community itself should in fact become a major instrument of education.

16. In pursuing these aims the Curriculum Development Centre will give special attention to the upper primary sector during the Plan period, concentrating on social studies, environmental science (including agriculture), homecraft, and manual craft training. The curricula of pre-service and in-service teachers' colleges will be re-assessed and adapted in line with the changing orientation of the schools. It must be stressed, however, that changes such as these will only be achieved by careful and sustained planning, including a vigorous campaign to win teachers, inspectors, administrators, parents and the public at large to the new outlook on primary schooling.

B. POST-PRIMARY TRAINING

17. During the Plan period, it will not be possible to provide either formal secondary education or other forms of training for all Grade VII leavers, who will account for between 60 and 70 per cent of the entire age group. At the same time, facilities for post-primary training barely exist and must be increased. Because the trainees are young and paid employment is scarce, this is a difficult field to succeed in. A variety of imaginative, experimental, yet realistic approaches by several agencies will be required before the special problems as well as the potential of post-primary training in Zambia are understood. The Plan in education will support two such approaches.

18. *Pilot Project.* Government will examine the introduction of a pilot project in one region which will attempt to relate upper primary and post-primary education closely to the environment, the community, and vocational preparation. It is hoped that this project will indicate how, if at all, the structure of the formal school system, both primary and secondary, should be changed to accord with the changing function of schooling in Zambian society in the seventies. In particular, the project will determine the potential for an integrated, inter-ministerial approach to education for rural development. As the project will attempt to make efficient use of available educational and training facilities, its capital requirements should be small. A sum of K25,000 has been allocated for this purpose under 'Ministry Headquarters' in Table X–12.

19. *Vocational Centres.* Several developing countries, including Zambia, have independently developed institutions for post-primary training which have several important features in common:

(*a*) they are simple, flexible, low-cost, community based and managed, and project-orientated;

(*b*) they take into account local economic needs and conditions in framing their programmes;

(*c*) they aim at training young men and women as far as possible for self-employment; and

(*d*) they provide some extension service to trainees on completion of their courses.

20. Several Ministries and Departments could sponsor such centres, and local authorities and voluntary agencies are particularly suited to enter this field, as several already have. A sum of K200,000 has been allocated (under 'Ministry Headquarters' in Table X–12), so that, after necessary consultation and planning, modest grants may be made to establish several vocational centres for post-primary training in rural and urban areas. If these experimental grant-aided centres have a fair measure of success, it would be reasonable to expect that this form of training, closely linked with production to satisfy community needs, will attract increasing support.

21. Government will explore the possibility of using the facilities of Adult Education Centres for this type of training. The prospects for technical assistance, at least in the initial stages, will also be investigated.

C. SECONDARY EDUCATION

22. The Plan provides for opening an annual average of thirty-five new Form I classes, yielding an average rate of progression from Grade VII to Form I of about 24 per cent over the Plan period, assuming that the primary school development targets are met.

23. The new classes will be achieved by making extensions to existing schools and by opening thirteen new full secondary schools and two junior secondary demonstration schools between 1972–76. In addition, construction of three other schools will be sufficiently far advanced to permit opening in 1977. Table X–3 summarises the proposed expansion.

Table X–3—Projected Growth in Government and Aided Secondary Classes and Enrolment, 1971–76

Year	Classes (in Form)			Enrolment (in Form)		
	I	IV	I–V	I	IV	I–V
1971	399	234	1,534	15,260	7,650	54,260
1976	537	242	2,053	20,700	8,500	74,500

24. The secondary system has completed its transition from a 2:3 to a 3:2 junior: senior structure. Sufficient senior secondary streams will be provided to enable an average of half the Form III enrolment to proceed to Form IV. This is a reduction from the First Plan progression rate, and it achieves both a faster rate of expansion at the Form I level and a closer alignment with manpower requirements. However, in the short term this adjustment will have the effect of maintaining output from Form V at a fairly constant level, which has important implications for the size and quality of intake to the University of Zambia and post-secondary colleges.

25. As in the First Plan, it is Government's policy to relate secondary school expansion to manpower needs. Pending fresh official manpower estimates, the projections published in the report on *Zambian Manpower* (1969) have been used. Table X–4 compares the anticipated output from secondary schools during the Plan period with the required outputs as estimated in *Zambian Manpower*. On present evidence, the rate of expansion proposed for the Plan appears satisfactory from the manpower point of view, but the figures in Table X–4 must be regarded as only indicative until revised manpower projections are available.

Table X–4—Planned Secondary School Outputs and Estimated Outputs Required to Meet Manpower Needs, 1972–76

(thousands)

Year	Projected Form III Output		Projected Form V Output	
	Planned	Required	Planned	Required
1972	7.4	8.1	7.2	7.1
1973	7.5	8.8	7.1	6.3
1974	7.7	9.6	6.5	5.7
1975	8.4	10.6	6.6	6.5
1976	9.9	11.6	6.8	7.1

26. By far the largest component of the secondary schools programme is the Zambia World Bank Education Project which was begun at the end of the last Plan and is scheduled to be completed during the present Plan. The Project comprises the construction of nine new schools and extensions to fifty-six existing schools, furniture and equipment. The total cost is K22.9 million, of which K21 million will be spent during the Plan period. An additional sum of over K5 million is required for ancillary works at Project schools, especially water storage and teachers' housing, for which financial provision is not made under the loan agreement with the World Bank.

27. Besides adding new secondary places, the Project plans are based on principles of economical room usage which will require a rotational rather than a classroom-based system of school organisation. The Project's accommodation schedules are being applied also to schools outside the Project, so that the system will retain a generally uniform standard of facilities.

28. Increased enrolments, a more complex curriculum, and a new pattern of school organisation will make heavy demands upon the administrative and supervisory resources of Heads and their teachers, as well as the support and advice of the Inspectorate and Planning staff.

29. The rest of the capital development programme in secondary education comprises the completion of four schools continued from the First Plan, completion of the extension programme at non-World Bank Project schools, construction of junior secondary demonstration schools at Teachers College, Kabwe, and the proposed Copperbelt Teachers College, and a major part of the construction of three new full secondary schools. The capital cost of the entire programme is shown at Table X–5.

Table X–5—Secondary Education: Capital Estimates, 1972–76
(K thousand)

Programme	Estimated Cost
Zambia World Bank Education Project	21,258.8
Zambia World Bank Education Project Ancillary Works ..	5,283.0
Completion of FNDP Schools	4,713.8
New SNDP Schools	4,165.0
Extensions, Services and Improvements	2,460.0
Total	37,880.6

30. *Secondary Schools and Community Action.* The teaching staff and pupils of each secondary school constitute a supply—in some rural areas a unique supply—of knowledge, skill and resourcefulness which can be mobilised in rendering service to their communities. Most schools already contribute in one way or another to adult literacy and night school teaching, food and nutrition instruction, homecraft, child care, and sewing classes. The Government will encourage such activities on a more systematic basis by circulating information on individual school's community service, by newsletter or otherwise, and by instituting an annual award for meritorious community service which could be competed for on a district, regional and national inter-school basis.

31. Community Service Camps will receive more vigorous support. Their organisation and administration will be fully decentralised to the regional level. As far as possible, camps will be organised on a district basis, in full collaboration with Ward and District Development Committees.

32. The Government will investigate the possibility of making fuller use of secondary school facilities after school hours and during school holidays for various adult training and in-service courses for teachers. The potential contribution of secondary school teachers and pupils in the new field of extension training for primary school leavers, especially in the fields of agriculture, animal husbandry, homecraft and manual skills, will also be explored.

33. Moreover, it is intended to undertake a feasibility study for a scheme of Student Community Service. The aim of Student Community Service would be to engage young people in development programmes which will be of service to the communities in which they live or in which their schools are situated. The Service would be closely integrated with the Ward and District Development Committees. An important question to be decided by the study is whether the aims of the new scheme are adequately covered by the present system of Community Service Camps, or whether the Community Service Camp concept could be extended to include upper primary school pupils and to embrace student-community action on a wider scale.

D. TEACHER REQUIREMENTS—TRAINING AND RECRUITMENT

34. *Primary School Teachers.* The requirements for newly trained teachers, including local teachers needed to replace expatriates in the formerly scheduled schools, will be far in excess of the capacity of the present training system. Expansion planned during the next five years will cover only minimal requirements, but consideration will be given to ways in which teacher training capacity can be used to better advantage when revised projections based on a complete staff survey are available.

35. The development programme in this field comprises the following elements:

(*a*) Kitwe Teacher Training College will be expanded under the Zambia World Bank Education Project to a capacity of 500 students.

(*b*) David Livingstone Teacher Training College will be expanded to a capacity of 300 students.

(*c*) New colleges enrolling 300 students each will be built at Mansa and Solwezi.

(*d*) A college for men at Mongu will be built, or the present women's college will be extended to accommodate 150 men, for a total enrolment of 300.

The three new institutions were included in the previous Plan but could not be built through lack of funds.

36. It is likely that Form V leavers will volunteer for primary teacher training before the end of the Plan period, a welcome development which will necessitate the mounting of a specially designed course of training. The possibility of instituting a third year of specialist training for selected groups of able students, following the normal two-year certificate course, will be investigated. Such teachers would strengthen the system by improving the depth and quality of instruction in important subjects, and by giving better preparation to candidates for posts of responsibility. Attention is also being given to the need to alter the focus and re-shape the content of the primary teacher training course in the light of the revised objectives of the primary curriculum and the heavy responsibility which rests on teachers under the new village development scheme.

37. *Secondary School Teachers.* Requirements for secondary school teachers and outputs from local training programmes are shown in Table X–6. Although the training institutions will be making a highly effective contribution by the end of the Plan period, the anticipated rates of school expansion and attrition in the teaching force will keep the annual need for new expatriate recruits at a high level until 1975. Zambian teachers will comprise slightly less than half of the secondary teaching force by the end of the Plan. Thereafter the proportion of expatriates is expected to diminish rapidly except in the fields of science, mathematics, and some of the specialist subjects.

Table X–6—Projected Secondary Teacher Requirements, 1972–76
(Government and Aided Schools)

	1972	1973	1974	1975	1976
Total teachers required ..	2,536	2,546	2,791	3,061	3,246
New input of trained Zambians	130	187	309	480	529
Total Zambians in system ..	387	535	790	1,151	1,507
As % of total teachers ..	15.3	21.0	28.3	37.6	46.4
New expatriate recruits required	511	399	493	409	307

NOTE—For statistical purposes these projections assume that annual requirements are met.

38. A Zambian teaching force is a national necessity. In order to reduce the presently excessive staff turnover and thereby improve the morale and efficiency of the schools, as well as for more profound social and political reasons, it is essential that local training programmes should rapidly increase their outputs of qualified Zambian teachers.

39. Under the Zambia World Bank Education Project, the Plan provides for completion of Stage II at Teachers College, Kabwe, raising capacity to 450, and the conversion of a former private secondary school into the Copperbelt Teachers College, with an enrolment of 300. This new college will concentrate in the fields of science, mathematics, homecraft and commerce. The University of Zambia World Bank Project includes the construction of Phase II of the School of Education building, which will significantly increase the University's contribution to teacher training.

40. The University is reconsidering its pattern of secondary teacher training, with a view to increasing the output and improving the professional quality of local teachers. The current Postgraduate Certificate in Education course, run mainly for expatriate contract teachers, will be terminated after the 1972–73 academic year, enabling the School of Education to concentrate its attention on the training of Zambian teachers. It is expected that the School's programme will continue to receive assistance under Phase II of the current UNDP/UNESCO Project, which includes provision for the counterpart training of local University teachers. The programme of studies at Teachers College, Kabwe, is under review by the Professional Board of the Institute of Education in the light of the College's first few years' experience and the parallel discussions on University teacher training. The University's Mature Age and Special English entry procedures will widen the College's intake, as will a special course for retraining selected primary school teachers for secondary teaching.

41. The training of teachers of practical subjects will receive special attention during the Plan. The Agricultural Education course at the Natural Resources Development College will continue in association with the Institute of Education. The Commercial course at Kabwe will

move to improved facilities in the Copperbelt College when it opens. Homecraft teachers will be trained both at the upgrading course for primary teachers which will be revived at the David Livingstone College, and at a new pre-service course at the Kitwe College which will transfer later to the Copperbelt College. A small unit for training Industrial Arts teachers will be introduced when Kabwe Phase II is completed.

42. The need for Zambian technical teachers will become increasingly acute as the new and expanded institutions of the Commission for Technical Education and Vocational Training approach their maximum enrolments. A new Technical Teacher Training Institute therefore has a high priority during the Plan. This Institute will be sited adjacent to the Zambia Institute of Technology at Kitwe, and will be designed to train teachers and instructors for the Commission's entire programme as well as for the secondary schools.

43. *In-Service Teacher Training.* The National In-Service College (NISTCOL) at Chalimbana is being extended under the World Bank Education Project and will accommodate a maximum of 300 teachers. NISTCOL will thus become a powerful instrument for the professional renewal of the primary teaching force. The college will continue its short courses for retraining teachers in the new Zambia Primary Course, as well as its one-year up-grading course, and courses for preparing Heads to undertake managerial functions. Other courses will be mounted as and where needed.

44. The capacity of the Institute of Education will also be extended when the School of Education's Phase II building is complete. The division of function between NISTCOL and the Institute will be kept under review, but it is likely that the Institute will operate as a staff college for the administrative and training cadres of the education profession.

45. Table X–7 shows the capital costs of the development programme for teacher training.

Table X–7—Teacher Training: Capital Estimates, 1972–76
(K thousand)

Programme	Estimated Cost
Zambia World Bank Education Project	1,433.2
Zambia World Bank Education Project Ancillary Works ..	270.0
New Teacher Training Colleges	2,591.0
Extensions, Improvements and Services	730.0
Total	5,024.2

E. EDUCATIONAL SERVICES

46. *Education of the Handicapped.* The provision of education for handicapped children is an essential part of the Government's overall programme for extending schooling for all. The report of the McGregor Committee emphasised that for too long the education of the handicapped had been starved of funds, trained staff, sustained official interest and a guiding policy. These serious deficiencies are now being overcome.

47. Most of the work in this field will continue to be done by missions and voluntary agencies, but Government will provide increased resources to support and improve the system. Specialist supervisory staff will be engaged and local staff will be trained. The present small college in Lusaka for the training of teachers of the handicapped will be extended. A sum of K875,000 has been allocated to improve, equip, service and extend the system during the Plan period. By 1976 this service will have received encouragement, advice and facilities in keeping with national social and educational policies.

48. *Zambia Library Service.* After its proving years, the Zambia Library Service now possesses the vision and organisational basis required for a vigorous expansion. It has become an essential informal educational and cultural service, capable of putting the wide resources of local and foreign libraries at the disposal of people throughout the country. The more people receive schooling, the more valuable a comprehensive library service becomes.

49. Although the service was unable to undertake its proposed development programme in the early years of the previous Plan, a new Reigonal Library at Choma was completed and

others are under construction at Kasama, Mongu, Mansa and Solwezi. These and two others at Kabwe and Ndola will be completed in the present Plan, and sixteen Branch Libraries will be built, two in each Province, at centres whose district population exceeds 50,000. The small, mainly village, Library Centres will double to 1,200 by 1976.

50. Librarianship training at sub-professional and professional levels will continue at the University of Zambia, ensuring that the growing number of libraries will be staffed almost wholly by Zambians within a measurable period.

51. *Adult Education*. The enrolment target for this service will remain at 60,000 as in the First Plan. Despite a huge increase in the coverage of the service since 1964, the First Plan target could not be met, largely because of an important shift of demand away from primary courses to secondary. During the current Plan, therefore, lower primary classes will be run down, while targets for upper primary, junior secondary and GCE classes will increase to 20,000, 38,500 and 2,500 respectively.

52. Adult Education Centres will be built at Kabwe, Livingstone, Mansa, Mbala, Kasama, Chipata, Solwezi and Mongu. They represent an expansion into the rural areas of valuable skills-training courses, many of which have been available only in the bigger towns. The centres will offer a wide range of vocational courses by day, and regular school courses at night. The same practical orientation, especially towards agriculture, will be introduced into the new primary curriculum for adults.

53. The enrolment of the Correspondence Course Unit at Luanshya is expected to triple by 1976, when it is hoped that the output of lessons will have reached 1¼ million per annum. The current school-based courses will continue and be extended, partly in collaboration with the Educational Broadcasting Service. However, there is tremendous scope for the development of general interest and vocational courses by correspondence, especially in collaboration with other extension services, and this field will be explored as vigorously as staff and facilities allow.

54. The growing complexity and importance of adult education has created the need for a co-ordinating and advisory service in the shape of the Zambia Board of Adult Education, with a full-time executive secretary operating out of the Ministry of Education.

55. *Educational Broadcasting and Television*. Both services are firmly established and offer twenty-four hours of transmission time weekly. However, before the next stage of development is undertaken a full professional evaluation of their effectiveness will be undertaken. Moreover, the future technical capacity and coverage of Educational Broadcasting and Television hinge upon the proposed development of ZBS and TVZ during the Plan period. Meanwhile, essential lines of action will be pursued. In particular, collaboration will be strengthened with the Institute of Education, the Curriculum Development Centres, the Inspectorate, serving teachers, the Teacher Training College, and the Correspondence Course Unit. An allocation of K300,000 has been made for the purchase of receivers for schools and equipment for the sound and television studios as well as the Audio-Visual Aids Library.

56. *Curriculum Development Centre*. The Centre has replaced the English-Medium Centre, which was responsible for producing the basic elements of the new Zambia Primary Course. The Curriculum Development Centre covers both the primary and secondary fields. Its role is to contribute to national development by assisting educational change, in the light of national priorities and development needs on the one hand, and progressive educational practice on the other. The Centre therefore stands at a pivotal position within the education system. To do its work effectively it needs an adequate, largely Zambian, specialist staff and suitable accommodation. These requirements should be met during the Plan period.

57. *Educational Services Centre*. This Centre will be a major new professional and service institution, which will initially house the Curriculum Development Centre, the Correspondence Course Unit, the Audio-Visual Aids Library and the administrative offices of the Educational Broadcasting and Television Service, and Zambia Library Service Headquarters. All of these services are hampered by inadequate accommodation. The new Centre will provide space for orderly development, and since professional and functional links connect the work of all these services, a carefully designed joint facility will enable economies to be made in accommodation, staff and equipment. K500,000 has been allocated for its construction.

58. Table X–8 shows the capital provision for the Educational Services sector.

Table X–8—Educational Services: Capital Estimates, 1972–76

(K thousand)

Programme	Estimated Cost
Education of the Handicapped	875.0
Zambia Library Service	632.0
Adult Education	1,080.0
Educational Broadcasting and Television	300.0
Curriculum Development Centre	25.0
Educational Services Centre	500.0
Total	3,412.0

F. TECHNICAL EDUCATION AND VOCATIONAL TRAINING

59. Technical education and vocational training now have vastly increased priority among national development programmes. They are being planned as an integrated programme of education and training at all levels below the professional and in the full spectrum of occupations. The number, range and functions of the institutions are being increased and the conventional apprenticeship system is giving way to formal, full-time, pre-employment day classes, to be supplemented with on-the-job industrial experience. Curricula will continue to be developed and reviewed in continuous consultation with employers.

60. The proposed programmes are designed to meet the Nation's needs for skilled manpower between the secondary school and degree levels. Full provision will be made for the development of initiative and originality, so that Zambians can contribute to technological innovation and industrial design, as well as using and servicing the products of other people's ingenuity.

61. *Technological Programmes.* The new Zambia Institute of Technology (ZIT) has opened in temporary quarters in Kitwe and Luanshya and is providing a three-year post-Form V education to the Diploma of Technology level in twelve major fields. Phase I of the new building, now under construction, will accommodate 700 students in 1973, and Phase II will increase the enrolment to 1,400 in 1975. The growth of enrolments at ZIT and the other technical and vocational institutions is shown at Table X–9.

Table X–9—Commission for Technical Education and Vocational Training: Projected Growth in Enrolment, 1971–76

Programme	Total Enrolment in Year	
	1971	1976
Technological Training	473	2,130
Trades Training	1,362	4,330
Applied Arts and Commerce	842	2,200
Teacher Training	60	200
Nkumbi International College	174	450
Total	2,911	9,310

62. The Northern Technical College (Nortec) will be enlarged under the Zambia World Bank Education Project. Enrolment will be increased from 350 to over 1,000 of whom almost half will undertake technological training. The technician courses are for three years post Form V, to the Certificate or Diploma of Technology level, in mechanical and electrical programmes. Electrical and mechanical craft training is also conducted at Nortec, in two-year, full-time pre-employment courses with entry at Form III.

63. The Zambia Aeronautical Services Training Institute (ZASTI) currently offers instruction in four Air Services programmes, lasting between six months and three years, and a technician training programme in aviation electronics. The Air Services programmes cater for trainee employees of the Department of Civil Aviation who are licensed by the department upon successful completion of their course. Another seven technical programmes will be mounted when the Institute's new building is completed, including aircraft maintenance technician training and pilot training to commercial twin-engine level with instrument rating. Enrolment is expected to rise from 190 to 310 in 1976.

64. *Trades Training Programmes.* The largest sector in the technical and vocational field is the training of craftsmen, a programme requiring six months of pre-vocational instruction and two years' craft training at the post-junior secondary level. Programmes to develop full occupational competence at the trade level are now in operation at eight centres. Six former Trade Schools are being rebuilt and enlarged as Trades Training Institutes (TTIs) with enrolment varying between 300 and 750 by 1975. A seventh TTI is under construction at Choma under voluntary agency management, with external capital assistance. About half the total enrolment at Nortec is also enrolled in trades courses.

65. *Commerce and Applied Arts.* Courses of training lasting from six months to three years in a wide variety of occupational fields are offered at the Evelyn Hone and Kitwe Colleges of Applied Arts and Commerce. All courses are organised as full-time, pre-employment programmes, leading to Certificates of Proficiency, the Certificate of Applied Arts, or professional institute examinations, although part-time and evening class upgrading courses are also mounted. The Evelyn Hone College will undergo a large expansion programme during and beyond the Plan period. Additional teaching blocks, a library, an Art Centre (which will house new programmes in design, commercial and fine art, sculpture, and music), and para-medical facilities are included in the new development. Enrolment will more than double, from 780 in 1972 to 1,900 in 1976. The Kitwe College, starting from small beginnings, will reach 300 by the end of the Plan.

66. *Technical Teacher Training.* A technical and vocational teacher training institute to accommodate almost 200 students by 1976 will be essential if the planned programmes in technical and vocational education are to be put on a stable footing. The Institute, to be built at Kitwe, near the Zambia Institute of Technology, will serve all programmes administered by the Commission, and will also be the main source of Industrial Arts teachers for secondary schools. It is expected that the Commission will receive multilateral and bilateral assistance in planning, staffing and equipping the institute.

67. *Nkumbi International College.* This College is now administered by the Commission, and will continue its service to refugee students, along with a considerable proportion of Zambians. The College will retain its academic programmes to GCE level, and will also offer operative and mechanical courses related to agricultural occupations, partly in connection with an associated farm settlement scheme in Mkushi District. Most of the capital requirements for this programme will be received from external sources.

68. *Commission Outputs and Manpower Requirements.* As with secondary education, the only available projections of manpower requirements in technical and vocational fields are the estimates published in *Zambian Manpower*. These are useful indicators, but far from exhaustive, and the definitions employed do not always correspond with present usage. Comparisons with projected output from training institutions must therefore be treated with reserve until revised manpower requirement estimates have been made.

69. It is not yet possible to make meaningful comparison at craftsman level. Table X–10 relates the planned output in 1976 of all Commission institutions at diploma, certificate and vocational levels, with *Zambian Manpower* estimates of the average annual output required in these fields over the decade 1971–80. Except in the five fields (lines 3–7) where *Zambian Manpower* anticipates the smallest demand, the planned outputs in 1976 fall well short of the estimated annual average requirement, whereas by 1976 they should be, if anything, higher than the annual average for the seventies.

Table X–10—Planned Diploma, Certificate and Vocational Outputs from Commission Institutions, 1976 and Estimated Average Annual Output Required to Meet Manpower Needs, 1971–80

Occupation	Diploma		Certificate and Vocational		Total	
	Planned 1976 Output	Annual Requirement (Zambian Manpower)	Planned 1976 Output	Annual Requirement (Zambian Manpower)	Planned 1976 Output	Annual Requirement (Zambian Manpower)
1. Accountants	44	70	50	186	94	256
2. Engineers	176	100	342	98	518	198
3. Architects and Quantity Surveyors	12	14	24	11	36	25
4. Chemists	12	3	16	—	28	3
5. Other Natural Science	28	12	14	4	42	16
6. Pharmacists	—	7	14	—	14	7
7. Health Technicians	74	28	15	25	89	53
8. Technicians other than Health	10	297	20	580	30	877
9. All other Professional and Technical	16	220	157	173	173	393
10. Administrators and Managers	82	330	177	1,580	259	1,910
11. Book-keepers and Cashiers	—	90	93	416	93	506
12. Secretaries and Stenographers	12	150	96	—	108	150
13. Typists	—	—	186	400	186	400
Total	466	1,321	1,204	3,473	1,670	4,794

NOTE—Apparent unbalanced output shown in lines 2 and 8 arise from different definition and grouping of data on Engineers and Technicians.

70. Table X–11 summarises the proposed capital expenditure on Commission institutions for the Plan period.

Table X–11—Technical Education and Vocational Training: Capital Estimates, 1972–76

(K thousand)

Programme	Estimated Cost
Technological Training	15,968.0
Trades Training	6,727.0
Applied Arts and Commerce	2,597.0
Technical Teacher Training	545.0
Staff Housing	3,603.0
Nkumbi International College	160.0
Total	29,600.0

NOTE—Nortec's entire expansion programme is included under 'Technological', though it includes trades training.

G. UNIVERSITY OF ZAMBIA

71. The University of Zambia will continue to be guided by the two ideals which have determined its policies since its foundation: to create a centre of higher learning in Zambia which will observe the most rigorous standards of academic teaching, professional training, and original inquiry; and to help define the country's pressing needs for knowledge, skill and considered judgment, applying its resources to the satisfaction of these needs in all fields within its competence.

72. In pursuit of these ideals, the University's development programme for the Second Plan will be governed by several principles and objectives. Numerical and physical expansion targets will be ambitious yet attainable, based upon realistic estimates of qualified student intake, academic and administrative capacity, and available funds. The established academic Schools and related facilities will be strengthened and extended in proportion to the manpower requirements in their respective fields. The existing buildings will be used to their fullest capacity consistent with maintaining acceptable standards of teaching and research, and new buildings will be erected only where there is demonstrable need. Administrative services will be reinforced, to provide a secure footing for current academic programmes and to enable expansion to

proceed without loss of efficiency. The Staff Development Programme, designed to encourage young Zambian scholars to embark on academic careers, will continue to occupy a high order of priority. Adequate but inexpensive facilities will be provided for sport, recreation, social and cultural activities on the campus. Careful control will be exercised over building and space standards in the design of all new structures, with a view to economy.

73. Enrolment projections determine the scope of the development programme. The full-time enrolment in 1971 numbered 1,565. It is anticipated that by 1976 this figure will almost have doubled. The University expects to reach this target in the following stages:

1972	1973	1974	1975	1976
1,752	2,175	2,540	2,788	3,012

A faster rate of growth would seriously impair the quality of academic achievement. Any appreciable reduction would depress the output of graduates to an unacceptable level. The development programme will provide student residential places for 90 per cent of the total enrolment (on the assumption that 10 per cent of the student body will live off the campus), with catering facilities to match. Instructional, administrative and related facilities, including staff housing, will be based on the target enrolments.

74. The scope and priorities of the development programme were described in the report of the University Grants Committee (1970), whose recommendations were accepted in principle by Government. With appropriate adjustments, necessitated by revised enrolment and cost estimates, as well as economic conditions, the Committee's recommendations will be followed during the Second Plan.

75. The second stage of both the School of Education and the School of Engineering buildings will be completed in 1972 under the University of Zambia World Bank Project, which also includes substantial additional student residential accommodation. A new Administration block will be built, releasing space for the expansion of the School of Humanities and Social Sciences. The School of Natural Sciences will reclaim laboratory and office accommodation presently on loan to the Schools of Engineering and Agricultural Sciences.

76. The School of Agricultural Sciences now occupies the highest priority in the University's academic development. A new building for the School will be constructed, and it will acquire its own teaching farm. However, the School will work in close collaboration with the Natural Resources Development College, sharing facilities wherever this proves feasible.

77. Academic equipment, sports and recreational facilities, and a University Centre and assembly hall, comprise the remaining major items of the development programme. A total sum of K13,838,786 has been allocated for grants to the University of Zambia during the Plan period.

78. There is an additional project for which funds have not been specifically reserved in the Plan, but which will be seriously evaluated at an early stage. This is the establishment of a University facility for teaching and research in Geology, Metallurgy and Mining Engineering, for which formal academic training within Zambia barely exists.

79. Table X–12 provides a summary of the capital estimates prepared for the Education and Training sector during the SNDP.

Table X–12—Education and Training: Capital Estimates, 1972–76

(K thousand)

Programme	Estimated Cost
Ministry Headquarters	525.0
Primary Education	24,219.4
Secondary Education	37,880.6
Teacher Training	5,024.2
Educational Services	3,412.0
Technical Education and Vocational Training	29,600.0
University of Zambia	13,838.8
Total	114,500.0

CHAPTER XI—HEALTH

A. PRESENT HEALTH SITUATION

The most common indicators of the present health status of the population are those related to life expectancy, death rate and infant mortality rate.

2. The life expectancy at birth, based on the 1969 census of population, is estimated at 38.5 years by the Zambia State Insurance Corporation. The estimated crude death rate was 17 per 1,000 of population in the 1969 Census as compared to 19 per 1,000 of population in 1963. The slight fall in the death rate appears to be consistent with the increased medical facilities. The estimated infant mortality, that is death among children of under one year of age, is 160 per thousand live births.

3. The situation regarding preventable and communicable diseases may be summarised as follows:

Malaria is endemic in Zambia, and it occurs in all parts of the country. In the Northern Province, in an examination of blood samples in association with the nutrition status survey organised by the National Food and Nutrition Commission with assistance from FAO in 1970, positive malaria infections were noted in 30 per cent of the population.

Smallpox used to be endemic in the country and from time to time has broken out in epidemic form. As a result of intensive vaccination and active surveillance associated with the prompt control measures adopted, there have been no endemic cases of smallpox since 1969.

Malnutrition and Avitaminosis. The main food deficiencies are those relating to proteins. Malnutrition exists equally in rural and urban areas and also among a large proportion of the people who can afford to buy the food required, but do not do so due to lack of knowledge. From the preliminary biochemical findings of the nutrition status survey in the Northern Province, the main nutritional factors affecting the population in that Province are protein and riboflavin deficiency, and anaemia of multiple origin with a high incidence of retinol deficiency.

Tuberculosis. From available evidence it is estimated that 10,000 cases of tuberculosis occur every year and actual notifications are about a third of these. Cases taking treatment are about 50 per cent and 400 deaths are recorded in institutions each year. For in-patient treatment, 1,094 beds are provided in various hospitals in the country.

Leprosy. There are about 15,000 known cases of leprosy. Only a minority of leprosy patients are infective and the infectivity of these cases is rapidly reduced by modern treatment.

B. POLICY OBJECTIVES AND PRIORITIES

4. In the expansion and development of health services during the SNDP, the following will be the guiding policy principles, forming an integral part of a longer-term national health policy:

(*a*) The greatest benefit to the people should accrue from preventive health work rather than from curative work. However, in the development of an integrated programme for maximum effectiveness, curative and preventive work will be co-ordinated in the Plan so as to establish a reasonable balance between them.

(*b*) Medical care will be made available to every citizen free of charge.

(*c*) Priority will be given to providing health care for infants, pre-school and school children and expectant and nursing mothers, with special emphasis on the improvement of the nutrition of these groups.

(*d*) Health education will be emphasised so as to obtain the active co-operation of the people in the execution of health programmes. Consequently, all health activities will be supported by a well planned scheme of health education.

(*e*) In rural areas, the health services are being planned so that by the end of this decade every citizen will be within a few kilometres of a health centre or a sub-centre.

(*f*) Highest priority is placed on all training programmes as trained personnel are vital for the maintenance and expansion of the health services.

(g) The consolidation of existing services will be undertaken in harness with planned expansion to achieve a balanced service.

(h) The Zambianisation of a further 800 posts now held by non-nationals is one of the Plan targets.

5. The SNDP has the following objectives to improve the health of the people and to provide better services:

(a) The reduction of morbidity and mortality in the country through immunisation against communicable diseases.

(b) To increase the number of hospital beds, within the limitations of available financial and manpower resources.

(c) The improvement of the health of the mother and child by having at least 50 per cent of infants, pre-school children and mothers under health care, and to increase the trained assistance at deliveries from the present 30 per cent to 50 per cent.

(d) To develop the basic clinical specialities of surgery, medicine, paediatrics and obstetrics, together with pathology and radiology, at all the General Hospitals at Provincial Headquarters.

(e) For the achievement of the best possible level of health, consideration will be given to the better integration of the health services provided by Government, Missions, Industry and Local Authorities.

(f) The introduction of measures to improve the collection and analysis of data pertaining to vital and health statistics, as such data are essential yardsticks to measure the progress in the health of the people.

C. HEALTH INSTITUTIONS AND HOSPITALS

6. At the beginning of 1971, there were 75 hospitals, including those provided by the Missions and by Industry, with nearly 12,000 beds; Health Centres and Clinics and the Flying Doctor Service provided a further 2,300 beds.

7. The Teaching Hospital, Lusaka, is a project continuing from the FNDP, the total estimated cost of which is K15 million. The present 813 beds at this hospital are expected to be increased to 1,200 by 1976—an increase of 387 beds.

8. The other hospitals under construction or being enlarged as part of the FNDP programme will provide additional beds as follows:

Chipata	210
Kasama	90
Mbala	90
Mansa	60
Kariba	28
Solwezi	90
Chitokoloki Mission . .	90
	650

9. Provision has also been made for extensions to other mission hospitals and for general improvements. The up-grading of staff accommodation and the construction of new staff houses for the missions will be assisted.

10. *Health Centres and Clinics.* The total number of different types of health centres and clinics, including those nearing completion in 1971, is well over 500, including those provided by Industry and Missions.

11. The existing structure of health centres will be reorganised to form the peripheral basic health services in both preventive and curative medicine, and their outreach will be increased through the establishment of health sub-centres. The new organisation will be supervised and controlled by the Medical Officer of Health in charge of an area to promote an integrated programme. The realisation of the full scheme is a longer-term project to be carried over beyond the Plan period, but sixteen new health centres will be established during the SNDP.

12. *Health sub-centres* will serve between 4,000 and 10,000 persons, depending on population density, the extent of the area and the terrain. Many health sub-centres are required to meet the needs of the country and a start will be made during the Plan period by establishing forty new sub-centres.

13. Each health centre will supervise five to six health sub-centres and will therefore serve a population of 25,000 to 40,000 and provide some sixteen beds itself.

D. MANPOWER AND TRAINING

14. The training of health personnel of different categories is carried out by Government, Missions and Mines Health Services. Training programme will gradually reduce the dependence on expatriate staff. The manpower and the scope of the training programme in the SNDP is given below for all main categories of personnel:

(*a*) *Doctors.* The School of Medicine was established in 1968 as a Faculty of the University, and the first batch of twenty-two students was admitted in March that year. The estimated number of doctors graduating between 1973 and 1975 is forty-eight, an average of sixteen per year; this will increase to between twenty-five and thirty per year from 1976 onwards, giving a total of seventy during the SNDP. The number likely to return from training abroad during the same period is thirty-three; thus providing an additional 103 local doctors.

(*b*) *Dentists.* In 1971 there were seven dental students abroad. It is planned that five or six students go abroad for training in dentistry every year until a school is established by the University of Zambia. The number required to be trained is sixty.

(*c*) *Instructors, Public Health Nurses and Administrators.* It is proposed to establish a 'Post Basic' School with international assistance at the University Teaching Hospital, for training Zambians in these grades. In view of the acute shortage of tutors which constitutes a great handicap in the expansion of the training schemes, suitable registered nurses with two or three years' experience will be sent abroad for training as a matter of utmost urgency, at the rate of five to six candidates each year, until the post basic school is established.

(*d*) *State Registered Nurses.* The present output of the training schools is twenty-five per annum. When the three existing schools work to capacity by 1973, the number of students in training will be 650, with a likely annual output of 200 nurses. This will not be adequate to meet the needs. It is therefore proposed to establish a fourth school at Ndola Hospital with a capacity of 150 students. The number required to be trained is over 1,000.

(*e*) *Registered Midwives.* It is planned to increase the number of students at the only school from fifteen to forty annually and also to establish a second school at Ndola Hospital to train fifty students per year.

15. Medical technical training is being provided by the College of Further Education for the following personnel:

(*a*) *Medical Laboratory Technicians.* The annual intake of twenty trainees will be increased in order to obtain present and future requirements.

(*b*) *Radiographers.* Training commenced in July, 1970, with nine trainees. The intake will be increased to twenty a year to meet the needs.

(*c*) *Physiotherapists.* This training will be commenced early in the Plan period as soon as facilities are made available.

(*d*) *Health Inspectors.* There are at present fifty-six trainees and future intake will be increased to take up the school's capacity of seventy-five trainees on the three-year course.

(*e*) *Dispensers.* The number of dispensers under training will be increased from twenty to forty. The course for Assistants will be extended from six months to one year with the annual intake increased from ten to twenty.

16. The Ministry of Health is responsible for the training of State Registered Nurses, Medical Assistants, Midwives, Zambia Enrolled Nurses, Dental Assistants, Laboratory Assistants, X-ray Assistants and Health Assistants. New schools for Zambia Enrolled Nurses and Midwives are planned at Chipata, Kasama, Mansa and Kabwe. The Medical Assistants Training School in Lusaka will be extended to increase the capacity of the school to 350 trainees. A school for X-ray Assistants is planned at Ndola Hospital and a school for Laboratory Assistants will be built at Kitwe, with a capacity of twenty trainees each.

E. PROGRAMMES

Maternal and Child Health Services

17. In 1969 about 61,000 live babies were born in institutions. About 30 per cent of the mothers received trained assistance at delivery. During the SNDP, the percentage of mothers receiving trained assistance at delivery will be stepped up to 50 per cent.

18. Infants and children up to the age of five years are provided care at Under Five Clinics. Since 1967 great emphasis has been placed on the establishment of these clinics, which are being run at many health centres depending on the availability of staff. Within this constraint it is the intention to establish these clinics at all health institutions.

Health Education

19. The Health Education Division will be strengthened by the appointment of trained Health Education Officers. A Health Education Materials Production Section to include visual aids, will also be developed. All health activities will be pivoted on a programme of health education at maternity and child welfare clinics, organised in schools, out-patient departments of hospitals, at health centres and other health institutions. The programme of health education will be improved with the appointment of additional trained staff.

Statistics

20. The statistics section will be built up to be functionally effective by prompt collection of the requisite data from all sources, analysing them and making them available to the administration in the shortest possible time for efficient planning.

Dental Services

21. Curative work is the main activity at present while conservation and prevention is very limited. Dental Officers also visit schools to detect and treat abnormalities. The number of treatments given in 1969 was 50,971 compared to 26,601 in 1968, an increase of over 90 per cent. In 1971 there were thirty dentists, giving a ratio of one dentist to a population of 135,000.

22. The main aim during the SNDP will be to establish preventive dental services while curative treatment will continue to be expanded. Dental Assistants will be employed for the development of both curative and preventive dental services.

Mental Health Services

23. It is estimated that about one in twenty of the population will need treatment during their life time for a major psychiatric problem. The service has grown rapidly during the last eight years. In 1969 the psychiatric in-patients treated numbered 4,181 and out-patients 8,452. Institutional beds provided for psychiatric patients numbered about 800. Both in-patient and out-patient services will be strengthened further during the Plan period.

Occupational Health

24. Legal provisions to safeguard the health of the workers are embodied in the Factories Act, 1965, and they are enforced by the Factory Inspectors of the Factories Section of the Ministry of Labour and Social Services. A comprehensive occupational health service to cover the health and welfare of all workers in industry has not yet been evolved. The only workers who are provided with effective health protection are the miners under the Pneumoconiosis Ordinance, Chapter 189. An enlarged Pneumoconiosis Bureau could undertake the health protection of workers in other industries, becoming the nucleus of an industrial health service. This will require WHO assistance for its organisation and development.

Flying Doctor Service

25. The Flying Doctor Service is established as a statutory body under an Act of Parliament. Government provides nearly all the financial resources for running the service, and funds derived from other sources are negligible. There does not appear to be any advantage for the service to continue to function as a statutory body, as already it provides a free medical service in keeping with Government policy. The possibility will therefore be explored of making the Flying Doctor Service an integral part of the Ministry of Health.

26. In 1968 nine airstrip clinics, mainly in the remote parts of Zambia, were operated and the number of patients seen at these clinics was 47,460. The total expenditure on running the Service was K465,046. The cost per patient seen was K9.73 per visit. In 1970 the number of airstrip clinics increased to ten and the number of patients treated was 94,698 with 1,085 flown to hospitals. From some of the airstrips, doctors and nurses visited the surrounding villages, schools and clinics, treated patients and administered preventive inoculations to children.

27. The Flying Doctor Service provides specialist and emergency services to populations in remote areas, where the services of a doctor or an emergency team are required, or there is urgent need for the evacuation of patients. The service will increasingly be limited to inaccessible areas as communications improve, other than to deal with extreme emergency cases. Improved services will be provided by establishing subsidiary stations and by co-ordination with Medic-air and other Mission air services.

Radiological Services

28. A total of forty-six Government and Mission hospitals had seventy-four X-ray plants of twelve makes. To facilitate maintenance, stocking of spare parts and the general up-keep of these machines, X-ray plants will gradually be standardised. A workshop and a maintenance service for X-ray and all electro-medical equipment will be established, with technical advice from the World Health Organisation. A radiologist will be appointed to each provincial general hospital, to be in charge of the radiological services in the Province.

29. The laboratory of the University Teaching Hospital will be separated from that of the Public Health Laboratory, and will function as a clinical-pathological laboratory of the hospital, as well as the teaching laboratory of the University. The Public Health Laboratory, Lusaka will become the National Health Laboratory, to function as the Central Laboratory of the Ministry of Health under the Chief of the Laboratory services.

F. CAPITAL EXPENDITURE

30. The planned capital expenditure on health services during the Plan period amounts to K30.3 million on projects controlled by Central Government, plus a further K6.36 million administered by the Provinces for Rural Health Centres, other medical services and grants in support of rural Mission medical facilities. Nearly K3 million, or about 45 per cent of the Provincial allocation, will be spent on Rural Health Centres. An additional K3 million will be provided by the Missions in matching funds. A sum of K0.6 million is allotted for a new radiotherapy unit in the University Teaching Hospital, Lusaka.

31. K21.2 million will be devoted to hospitals, over K4 million of which will be spent on projects to be started during the SNDP. Of the K17.2 million to be spent on completing building programmes commenced before 1972, over K8 million is required for completing the Teaching Hospital in Lusaka. New training institutions and final work on some nearing completion will cost nearly K7 million. The remaining K1.6 million will be used mainly to establish adequate medical stores, as well as to buy ambulances and to provide for the Flying Doctor Service.

32. Total capital expenditure on health services of nearly K40 million will be nearly twice as much as was spent during FNDP, but the proportion out of all Government investment remains virtually the same.

CHAPTER XII—HOUSING AND REAL ESTATE

A. REAL ESTATE IN GENERAL

Real Estate as an economic activity includes letting and operating real estate such as non-residential buildings, apartment buildings and dwellings, developing and subdividing real estate into lots and residential development on own account.

2. Real estate attracts a great deal of investment. It is of interest to note that during the FNDP approximately 11 per cent of all fixed capital investment was made into real estate. The resulting Gross Domestic Product, however, remained limited to some 3 per cent of total Gross Domestic Product in 1969.

3. The comparatively low return from real estate investment arises from the fact that such investment consists mostly of housing, let either rent-free or at subsidised rents. This fact is confirmed by the prevailing proportion of expenditure on rent within total private consumption in Zambia, which amounts to some 5.5 per cent; this is much lower than elsewhere.

4. The change to home ownership and, where applicable, economic rents, to be introduced during the SNDP, will alter the pattern of consumption, diverting an increasing portion of private consumption into the housing sector.

B. IMPORTANCE OF HOUSING

5. The social, economic and political significance of housing and communal services should not be underestimated. The degree to which a country's housing needs are met is an important measure of social, political and economic progress. The purpose of economic development is to enable people to live a better, happier life and decent housing within the reach of every income group is recognised by Government as a major contribution to family and community health. At the same time, better housing will bring about a higher productivity of labour, reduce costs of public health services and thus create important gains for the Nation's economic performance.

C. PRESENT POSITION OF HOUSING

6. The 1969 Census of Population registered a total population of 4,056,995 organised in 873,259 households accommodated as shown in Table XII–1.

Table XII–1—Accommodation of Households in Zambia

Number of Dwellings	Total	Owner-Occupied	Rented	Per cent rented
In urban districts	188,048	52,817	135,231	71.9
In rural districts	691,086	647,478	43,608	6.3
All Zambia	879,134	700,295	178,839	—

The excess of nearly 6,000 dwellings over the number of households seems to indicate a small amount of multiple occupancy.

7. The ownership structure of rented dwellings is given in Table XII–2.

Table XII–2—Ownership of Rented Dwellings in Zambia

Owner	Number of dwellings	Percentage
Central Government ..	37,079	20.6
Local Authorities ..	53,460	29.7
Companies	64,230	35.7
Private Landlords ..	24,070	14.0
Total	178,839	100.0

8. The size of dwellings is such that 51.3 per cent have one room, 25.5 per cent two rooms and 23.2 per cent have more than two rooms. Most dwellings accommodate single households but in 77 per cent of these dwellings more than two persons share one room and over 50 per cent of all dwellings accommodate more than four persons in one room.

9. Overcrowding need not be a serious problem in rural areas, where the remedy is in the hands of the people who can extend the size of their dwellings without great difficulty, as dictated by custom and tradition. However, such remedies are not available to the individual in urban areas. This has aggravated the accumulation of unauthorised settlements whose features are:

(*a*) unplanned development;

(*b*) generally poorly constructed dwellings;

(*c*) absence of essential services leading to high mortality and health hazards to the whole community;

(*d*) exploitation of those seeking the scarce accommodation.

10. In contrast to the conditions in the unauthorised settlements where the inhabitants themselves can do little to improve conditions, most occupiers of conventional housing estates are not only better able to support themselves financially, but are being heavily subsidised by Government or private employers.

11. To sum up, there is a grave shortage in urban areas and although no shortage of housing in rural areas exists other than for Government officers, the standard of accommodation in most villages is low. Every effort will be made during the SNDP to find solutions to these problems and to correct the imbalances between urban and rural housing.

D. THE SECOND NATIONAL DEVELOPMENT PLAN

12. The overcrowding in urban areas in general and in the squatter areas in particular is intensified by the continuing migration from rural areas and the high rate of demographic growth. Migration is caused mainly by the inability of rural districts to provide living standards above subsistence level or opportunities of wage employment. It is expected that the effect of migration and natural population increase during the SNDP will be as indicated in Table XII–3.

13. Any solution to the housing problem will be dependent on the resources available both to the nation and the individual. In assessing the number of households and the number of housing units required, use is made of the approximate proportions resulting from the 1969 census, where it was established that the three more urbanised Provinces (Copperbelt, Central and Southern) accommodated an average of 5.2 persons per household, while the remaining five Provinces had an average of 4.2 persons per household.

Table XII–3—Redistribution of Zambian Population in SNDP

Population	1971 (thousands)	1976 (thousands)	Increase (thousands)	Index 1976 / 1971	Annual Growth Rate
Rural Districts	3,027	3,177	150	105.0	0.82
Urban Districts	1,309	1,822	513	139.2	6.84
All Zambia	4,336	4,999	663	115.3	2.90

The number of Zambians living in urban districts is expected to increase from 30.2 per cent in 1971 to 36.5 per cent in 1976.

14. There is no doubt that better living conditions of the economically active population in urban areas lead to lower rate of infant mortality thus causing the demographic growth rate and the average size of household to grow. This fact is apparent from the 1969 Census figures and justifies the assumption that by the end of the SNDP, the average size of households in urban areas will be more than six persons. Already by 1969, the average household in the Copperbelt Province contained 5.9 persons. Using six as the urban average by 1976, the number of new housing units required will be as follows:

	1971	1976	*Increase*
Population in urban districts	1,309,000	1,822,000	513,000
Required number of housing units accommodating six persons each	218,167	303,667	85,500

In addition to the 85,000 new housing units required during SNDP, improvements to housing and services must be made to existing unauthorised settlements. The expansion of city and municipal areas will also require a corresponding development of communal services to ensure a reasonable level of environmental conditions.

15. The SNDP target is 70,000 new housing units by the end of the Plan period; some further institutional houses will also be built. The discrepancy between the estimated requirement of 85,500 and the Plan target of 70,000 arises mainly from an insufficiency of foreign exchange during SNDP. The building materials industry is still insufficiently developed to provide adequate import substitution, and despite its expansion, will not be in a position to meet all builders' requisites during SNDP. However, the need for new housing estates to provide accommodation for workers in new industries can be reduced by the careful selection of sites for such industrial establishments. A policy of taking new employment to small undeveloped population centres will help to speed up rural development, while at the same time reducing urban migration and the need for more urban housing.

16. In rural areas, the people will be assisted to improve the standard of their housing, and the regrouping of villages will be pursued in order to facilitate the provision of services. Institutions engaged in scientific research will step up their activities aimed at the identification of improved housing patterns based on locally available new materials which can be converted by simple means into manufactured building materials such as bricks, lime, hewn stone, sawn timber and so on. Technical assistance will be supplied to rural co-operative organisations undertaking the local manufacture of building materials.

17. Early in the SNDP, a massive campaign of village improvement will be launched aimed at the people themselves through their Chiefs, their Village Productivity and Ward Development Committees and local political parties. This will seek to mobilise rural populations to build improved houses with burnt bricks, to provide latrines, bathrooms and washing stands, to make reservoirs and other water supplies for human and animal consumption, to improve roads and general village sanitation, storage and market facilities, and to assist in the construction of administrative buildings at Ward level to co-ordinate these efforts.

18. The village improvement campaign will also undertake a crash programme to provide 3,000 borehole wells throughout the country. The people will be involved through their Village Productivity and Ward Development Committees. These water supply points will also provide a focus for village regrouping. This water supply programme will be executed with the aid of the appropriate technical departments and agencies of the Government. A sum of K6 million will be allocated to implement this scheme during SNDP.

E. HOME OWNERSHIP

19. Public funds alone cannot achieve the objectives of the Plan. In accordance with the principles of self-reliance and the utilisation of resources of individuals, the National Housing Authority will provide a comprehensive scheme for home ownership as soon as possible. The relevant authorities will be required to solve the problem of individual ownership of flats as part of the home ownership scheme.

20. The management and maintenance of all houses remaining in public ownership will be the responsibility of a single body—the National Housing Authority. Whilst overall control will rest with it, each local authority, will undertake those duties which fall within its area.

F. SERVICED PLOTS AND UNAUTHORISED SETTLEMENTS

21. In the SNDP, Government funds will be channelled primarily into the provision of 70,000 serviced plots and the requisite communal services. These plots will become available for house building by self-help developers, individual private developers and employers for staff housing schemes—for either purchase or rental. This will ensure the achievement of Government's policy of integrated housing.

22. The financing of the actual house building will be met as follows:

(*a*) from material loans and the self-help developers' own resources and labour;

(*b*) from loans supplied to individual private developers by their employers and banking institutions;

(c) by companies' own resources where employers provide staff housing;

(d) by social security funds, insurance and banking institutions making fixed assets investments to provide for collateral security in regard to their clients. Such institutions, with the exception of commercial banks, will be allowed to make fixed capital investments exclusively into real estate.

23. Existing and future plots need to be controlled by town-planning and building by-law requirements. Especially cities and townships selected for industrial locations, or likely to become attractive for extensive settlement, will be town-planned before the construction of industrial establishments in their area is begun.

24. It is recognised that although squatters' areas are unplanned, they nevertheless represent assets both in social and financial terms. The areas require planning and services and the wholesale demolition of good and bad houses alike is not a practical solution.

25. First priority must be given to the acquisition of land when any unauthorised settlement on it is to be upgraded. Strict control of any further development must be enforced both inside and outside the designated area. The following services must then be provided in any upgrading exercise: piped water supplies, sewers and sewage disposals, roads and surface water drainage, street lighting and other communal services.

26. In the past, there was a failure to assess the total requirements for services when planning housing development. In the SNDP, the provision of housing and communal services will be planned together. For example, investment in housing has not always been accompanied by the equivalent expansion in the water supply system, with a consequent water shortage. In some areas, site and service schemes have been planned without amenities such as schools, clinics, markets and shops, etc., and prospective participants have therefore been reluctant to settle there.

27. In keeping with Government practice in the field of education, health and rural development, money spent on servicing plots for housing purposes will be given as far as possible by way of grants, not loans. This will not only remove the burden on Government and Local Authorities of recovering the loans, but will encourage people to build their own houses. The recovery of Local Authority expenses can be met from rates and water charges as is the case with all other residents within a Local Authority area.

28. A great incentive for the regrouping of villages is the provision of communal services, symbolising the immediate benefits of regrouping. It is therefore envisaged gradually to provide a range of communal services, potable water in particular, to every regrouped village.

G. FINANCIAL ASPECTS OF THE PLAN

29. At present, Government is spending K2 million annually in subsidising local authority housing, specifically to reduce rents. With the implementation of home ownership schemes, the subsidy will automatically fall away. Economic rents will be charged on those that are not purchased, so that subsidies are no longer required for them. Furthermore, persons purchasing their houses will not be subsidised by low interest rates on borrowed money.

30. Government's role and that of Local Authorities will gradually be limited to:

(a) town planning to the extent required by regionally planned development;

(b) the provision of building sites supplied with roads, electricity, water and drainage, sewerage and amenities;

(c) the provision of engineering services including design and contract documents for recommended types of houses in the various density zones;

(d) through appropriate financial institutions, the provision of loans to individuals building homes for their own use, who have a steady income;

(e) through appropriate financial institutions, the provision of loans to companies embarking on housing schemes for the accommodation of their own personnel.

31. In physical terms, the SNDP is designed to implement the programme set out in Tables XII–4 and XII–5. This programme is expected to be fulfilled by individuals, companies, public institutions and authorities.

32. Phasing of implementation is envisaged as shown opposite—Table XII-5.

Table XII–4—Participation of Government, Individuals and Business Organisations in the SNDP Housing Programme

(K million)

Description	Quantity	Participation	
		Government	Others
Servicing of housing sites ..	70,000	35.0	—
Squatter improvement ..	—	5.0	—
Communal services:			
(*a*) urban	—	50.0	—
(*b*) rural water supplies	—	6.0	—
Provincial Housing	3,000	10.0	—
General Housing	67,000	—	100.0
Total	140,000	106.0	100.0

NOTE—Table XII–4 does not include institutional housing inseparably connected with definite projects such as border post housing, teacher housing, etc.

Table XII–5—Phased Implementation of the SNDP Housing Programme

(K million)

	1972	1973	1974	1975	1976	Total
Public Component	11.0	16.0	21.0	26.0	32.0	106.0
Private Component	10.0	15.0	20.0	25.0	30.0	100.0

33. It should be noted that all the financial and legal aspects of housing construction, management and operation require detailed study, including questions of freehold, leasehold and state ownership of land, in order to arrive at viable solutions resulting in optimal social and economic benefits. It will be the duty of all concerned Ministries to co-operate in the study. It is also to be borne in mind that the housing programme is closely connected with planned employment figures emerging from the availability of jobs created by the overall economic and social development within the SNDP.

H. OTHER REAL ESTATE

34. Real estate other than housing includes non-residential buildings such as commercial and other business premises, public administration offices and institutions and a number of other assets. There are at present no data available in that regard and serious work is indicated in order to assess the national real estate inventory and returns. Considering that approximately 65 per cent of all fixed capital investments, probably more, is being annually invested in potential real estate, it seems desirable to conduct an appropriate survey and find out the true state of affairs. The Central Statistical Office will be encouraged to take up this task during the SNDP.

CHAPTER XIII—SCIENTIFIC RESEARCH

A. INTRODUCTION

Scientific research is an integral part of economic development of developing countries. Zambia has had a number of programmes of applied scientific research aimed at developing the country's resources for quite some time. These programmes have been administered by various Ministries and Departments of Government, the University of Zambia, the NCSR, and by other organisations. The National Council for Scientific Research in Zambia seeks, as one of its important responsibilities, to co-ordinate the activities in this field and ensure that the best use is made of the results derived from these programmes of scientific research.

2. The role of the National Council for Scientific Research throughout the duration of the SNDP will be based on the duties assigned to it by relevant acts of law. Particular emphasis will be given to the following of its functions:

(*a*) the co-ordination of scientific and technological research;

(*b*) the creation of science awareness in the community and the popularisation of science and technology among both adults and children;

(*c*) the provision of advisory and technical services on technical or scientific policy and on technical manpower development;

(*d*) the delineation and investigation of scientific or technical problems with emphasis on the determination of priorities and the assessment and evaluation of various investigative approaches to scientific or technical problems;

(*e*) the encouragement of the study and practice of science and technology in order to maximise relevant technological transfer in all spheres of activity in the country.

3. The co-ordination of research will be achieved by making regular assessments of all existing and planned research activities in Zambia and ensuring that the duplication of effort, material and human resources is avoided. Close liaison between the National Council for Scientific Research and all research organisations will be maintained to ensure that effective co-ordination of scientific research is achieved. With the full co-operation of the Government and research departments, the National Council for Scientific Research will ensure that the SNDP is properly supported by research wherever possible and that optimal use is made of the available research results.

B. MAIN OBJECTIVES OF SCIENCE POLICY DURING 1972–76

Research Priorities

4. The main research priorities are as follows:

(*a*) to contribute towards the national effort to increase agricultural production by intensifying activity in the field of animal production, wildlife studies, foodstuff technology, and initiate and support applied research on crops to supplement the work done in the executive ministries and the para-statal agricultural organisations.

(*b*) To establish adequate research facilities in the field of medicine in close co-operation with the Ministry of Health and the University's School of Medicine, in order to raise the health status of both the rural and urban areas of the country. Special emphasis will be placed on studies leading to prevention and treatment of chest diseases, bilharzia, malaria and other diseases. In view of the dependence of a large section of Zambia's population on traditional medicine, ethnobotany will be studied and local pharmacopoeia will be prepared on an experimental basis and a chemical and pharmacological approach to their study will be made.

(*c*) To make distinct contributions to the study of natural resources in order to ensure the effective utilisation of the main natural resources. In this respect, minerals, building materials and various sources of fuel and energy will be studied.

Means of Science Policy Implementation

5. The main objectives to be followed by the National Council for Scientific Research during the SNDP are as follows:

(*a*) To complete and initiate the establishment of research units in which there is proven need for research.

(*b*) To continue the physical development of office and laboratory accommodation for scientific and technological work already started during the FNDP and for new projects which are outlined later in this chapter. The initial need for rapid provision of several laboratories created such high pressure for hurried planning that a less comprehensive approach was adopted in the overall design of the buildings and installation of research facilities. During the SNDP detailed preliminary planning will be done in all the projects before work is started on the construction and furnishing of laboratories. It is hoped that the introduction of grants-in-aid will eliminate the rush to have capital programmes done at all costs by the end of any particular year for fear of loss of funds.

(*c*) To give encouragement, recognition and support to the study and application of science and technology. This policy objective is based on the realisation that the transfer and acquisition of technology depends on the acceptance and utilisation of science or the scientific method in the implementation and monitoring of development.

(*d*) To provide support by way of research or technical services to ministries, industrial and other organisations in the country.

(*e*) To formulate and implement a staff development plan with the purpose of attaining the localisation of the professional, scientific, technical and administrative posts of the Council.

C. RESEARCH PROJECTS DURING 1972–76

Agricultural and Natural Resources Research

6. This constitutes the largest and most active area of scientific research in the Council. This partly arises from the fact that most of the projects were actually taken over from the former Agricultural Research Council of Zambia. The intensive activity also stems from the national recognition of the importance of agriculture and natural resources in development. Eight research units will be operative in this field, namely:

(*a*) crop research;
(*b*) forestry research;
(*c*) animal productivity research;
(*d*) food research;
(*e*) wildlife research;
(*f*) Kafue Basin research;
(*g*) tsetse and tick research; and
(*h*) water resources research.

7. The crop research unit will undertake long-term applied crop research in conjunction with the other organisations which are interested in this field.

8. The food research unit will offer services to industry and government in food analysis and quality control and will also survey and investigate the extraction, processing, preservation and utilisation of local raw materials used as food. Fruits, vegetables, fats and oils will be studied. The Council's programme will be closely co-ordinated with the work being carried out by other organisations in Zambia. The unit will continue to co-operate actively and provide laboratory space and facilities for the Food and Drugs Control laboratory which is being established by the Ministry of Health with the assistance of FAO.

9. The animal productivity research unit has already made significant contributions through its investigation of the calving rate of local breeds of cattle. The unit suffered depletion of staff in 1970 and 1971 and the full complement of staff will be recruited for this research unit in 1972. Professional officers with expert knowledge in animal husbandry, cattle management, nutrition and reproductive physiology are to be recruited for this important animal production research. Support will also be given to the study of other domestic animals by the staff of the School of Agriculture at the University of Zambia. Further investigations will be made into the biochemistry, physiology and nutritional aspects associated with animal production. Comparative breed productivity studies under various levels of input and types of management will be continued; management and nutrition studies will be carried out. It is hoped that the results obtained in this unit will help in the development of a generalised approach to the problem of infertility and the use of artificial insemination in livestock improvement.

10. Forestry research will be continued by the staff of the Tree Improvement Research Centre at Kitwe. It is envisaged that the Council will increase its contribution to forestry research by carrying out a programme covering research on wood quality, wood formation, co-ordinated selection, provenance studies, pollen studies, breeding, progeny testing, vegetative propagation, flowering studs, seed production and population parameters. This work will be done jointly with the Research Division of the Government's Department of Forestry.

11. Research in the field of wildlife is designed so that it can be readily applied by the officers involved in wildlife management. Current studies on the black lechwe will be continued based on the methods developed and experience gained during the ecological study of the black lechwe in the Lake Bangweulu area. Animal surveys using modern infra-red and other remote sensing devices will be used to facilitate the accumulation and subsequent rationalisation of ecological data.

12. The Council will continue to sponsor and co-ordinate multi-disciplinary research on the Kafue Basin. The construction of a dam at Iteshiteshi makes it imperative that intensive ecological studies should be carried out in the Kafue Basin.

13. The tsetse and tick research units were set up in order to contribute towards increased animal production in the country. The work of these units in insect and arachnid ecology and control will lead to the possible reclamation of tsetse infested areas for human exploitation and habitation.

14. The water resources research unit involves full co-operation between the University of Zambia, the Water Affairs Department, and the National Council for Scientific Research. An application has been sent to the United Nations for technical assistance in the development of water resources. It is envisaged that the water resources research unit will be a regional institution to cater for the needs of Zambia and other countries in the Southern African sub-region. The programme of activity takes into full consideration the fact that under the Zambian conditions of climate and energy resources the planning of the country's water potential constitutes an essential and important basis for most aspects of overall national economic planning. The unit will also organise courses for technicians working in hydrology.

Medical Research

15. It is widely recognised that medical research requires the availability of scarce highly specialised personnel and considerable financial resources. It is only possible for the Ministry of Health, the School of Medicine of the University of Zambia, or the National Council for Scientific Research to undertake medical research with united efforts. The efforts of the Council will be directed to supporting national projects initiated by the University of Zambia or the Ministry of Health. Financial support, laboratory facilities or technical personnel will be provided by the National Council for Scientific Research for work on child nutrition, endemic diseases, chest diseases, endemic goitre and other research projects that are considered as being of national importance by the Government. In view of the overall difficulties of conducting worthwhile and meaningful research in this field, programmes based on international co-operation will be encouraged.

16. Biological and biochemical research which is relevant to medicine will also be supported. Thus efforts will be made to make intensive scientific study of traditional medicine.

Industrial, Engineering and Building Research

17. Research in these fields comprises minerals research, building research, industrial research and engineering research.

(*a*) The National Council for Scientific Research intends to pursue vigorously its function of co-ordinating and promoting research in earth sciences, with a view to ensuring that the requirements of the development plans are properly supported by scientific research and that maximum use is made of the results from such research. The mineral wealth of Zambia seems vast with a great deal of it still unexplored and there is evidence of considerable deposits of various minerals available for future exploitation. In the light of current and projected national objectives to diversification, industrialisation and rural development, the Council intends to take an active part in the conduct, promotion and co-ordination of applied research into identification, treatment and beneficiation of mineral materials. The plans for the setting up of research units in earth sciences will be implemented during the SNDP.

(*b*) *Building Research*. A number of reports on the building and construction situation in Zambia have stressed the need for greater use of local raw building materials. The reports have indicated that considerable savings in both the conservation of foreign exchange reserves and the magnitude of actual expenditure are realisable if research were applied to investigate and encourage the local production of building materials. The Council will therefore co-operate fully with the National Housing Authority, the construction industry, the Buildings Branch of the Ministry of Power, Transport and Works, and the University of Zambia in the establishment of a *building research unit*. The unit will provide a service to executive construction organisations in various ways by adapting and applying the results of research done in other countries, investigating means of increasing the output of the construction industry in terms of the use of local materials and the training of Zambian staff, in building research methods. The activities of the Building Centre will be intensified.

(*c*) *Industrial and Engineering Research*. The present research programmes include the provision of staff and services for evaluation and development of coal resources. The Council will continue to provide services and support research in the fields of industry and engineering.

Research for Rural Development

18. The Council's present project in Mungule's area will be evaluated and subsequent research for rural development will be co-ordinated with the work done by the executive Government departments.

D. SCIENTIFIC, TECHNICAL AND EDUCATION SERVICES

19. The Council will continue to make technical services available and will, in addition, establish an instrumentation centre and a standards and metrology unit. The instrumentation centre will acquire instruments for general use by Government, industry and the public and will also produce prototype equipment required by research workers. The instrumentation centre will also assist with the maintenance and servicing of existing research equipment.

20. A standards and metrology unit will be established with the sole function of establishing standards for various materials, to measure and evaluate such materials in order to determine whether they comply with the prescribed standards.

21. To summarise, services will be provided during the SNDP by the following units or centres:

(*a*) The Documentation and Scientific Information Centre;
(*b*) The Cartographic and Location Analysis Research Unit;
(*c*) The Textile Technology Unit;
(*d*) The Radioisotope and Radiation Protection Unit;
(*e*) The Building Centre;
(*f*) The Statistics and Biometric Unit;
(*g*) The Instruments and Technical Services Centre; and
(*h*) The Standards and Metrology Unit.

22. Apart from the services listed above, all research units of the Council are, in their own fields of specialisation, equipped to assist other organisations which may require technical advice, information or assistance.

23. The financial requirements for scientific research are summarised in the following table:

Table XIII–1—Financing of the National Council for Scientific Research, 1972–76
(K million)

	1972	1973	1974	1975	1976	1972–76 Total
Capital Expenditure ..	0.9	0.9	0.9	0.9	0.9	4.5
Recurrent Expenditure ..	0.8	1.0	1.1	1.2	1.3	5.4
Total Expenditure ..	1.7	1.9	2.0	2.1	2.2	9.9

CHAPTER XIV—COMMUNITY DEVELOPMENT, SOCIAL WELFARE AND YOUTH

A. COMMUNITY DEVELOPMENT AND SOCIAL WELFARE

Policy and Aims

The community development process is one whereby the efforts of the people themselves are united with those of Central and Local Government, political leaders and voluntary agencies to achieve the greatest advancement by all available means of the overall welfare of the people. The community development concept as an approach to development should be adopted by all development teams. The community development worker, as a member of a team of development agents, has a key educative role to play in stimulating and co-ordinating community aspirations and action. Community development services will be greatly expanded, particularly in rural areas, and their special skills in community relations, leadership development and project planning with people be fully utilised as a method of:

(*a*) enabling Village Productivity and Ward Development Committees, Rural Councils and District Development Committees to become effective instruments in the planning of local projects and the co-ordination of all resources required for implementation;

(*b*) facilitating the involvement of all people in the development process of identifying problems and finding solutions;

(*c*) stimulating the adoption of innovation and change to solve high-priority problems, especially hunger, poverty, disease and ignorance, through self-help;

(*d*) mobilising, in conjunction with political leaders and the administration, the will and capacity of communities and individuals to raise productivity everywhere, but especially in the rural sector of the economy, and through self-help to improve standards of living;

(*e*) involving the people in national development schemes in partnership with Government and its technical departments, through its executive agencies at provincial, district and local levels;

(*f*) assisting in the provision of better amenities and services through the community's efforts under its own leaders, aided by Local Authorities and Government;

(*g*) enhancing the ability of individuals and groups for accepting parental and civic responsibility and leading fuller lives, by working through group leaders in women's and youth work, in functional literacy, nutrition and health education, in neighbourhood associations and pre-school groups, etc; and

(*h*) motivating and assisting communities to look after their children, and their needy, disadvantaged and errant members, giving lively expression to the central tenet of the philosophy of Humanism, namely *Caring for Man*.

2. Social welfare functions are a preventive and personal problem-solving group process, carried out mainly by working with and through communities and their leaders. A small number of specialists in this field will therefore provide assistance and guidance to community development staff, group leaders and volunteers, only working in direct contact with individuals and families where problems and personal malfunctioning are severe.

3. The main fields of operations are:

(*a*) identification of common sources of problems which require individual assistance, and making provision for their removal;

(*b*) encouragement and assistance to communities to care for their own needy and disadvantaged members, especially in the rural areas but also in towns as far as is possible;

(*c*) preventive and child care, matrimonial reconciliation and counselling, work with inadequate parents, children neglected and beyond control, and assisting those in orphanages and other institutional care to return to the community as early as possible;

(*d*) social work arising from schools and medical institutions, and care of the aged, handicapped and destitute;

(*e*) statutory supervision of juveniles and adults on probation and on licence from correctional institutions.

4. Investigations and reports on offenders and other cases for all courts will continue to be made by officers who have training and experience in social welfare—where the over-riding criteria of the protection of society and the reform of the offenders permit, rehabilitation in the community will be expanded through probation and extramural penal employment. Correctional institutions will be maintained. Other short- and long-term provisions for the aged, children and destitutes will be made by non-institutional means whenever possible.

5. The core staff of community development, including Community Development Assistants (CDAs), will be generalists working as members and as co-ordinators of development teams. They must be able, with the help of the technical specialists on the team, to assist communities to identify viable projects and programmes for their social and economic advancement, and advise Village Productivity and Ward and District Development Committees, particularly in plans for intensive development. Other members of the team should also be familiar with the community development approach and its methods to facilitate integrated team-work.

6. According to local requirements and possibilities, such teams may consist of all or any of the field staff in Agriculture, Horticulture, Livestock, Fisheries, Water Affairs, Marketing, Co-operatives, Agricultural Finance, Roads and Works, Public Health, Medical Services and Under-Five Clinics, Food and Nutrition, Education and other specialised services. CDAs will also work with local political leaders in the establishment of Village Productivity Committees and in helping the people to understand the practical development implications of the philosophy of Humanism and self-reliance.

7. An essential task of community development workers is to be familiar with the human and social elements as well as the economic factors of the areas in which they work, and to use this knowledge in assessing the opportunities and likely difficulties for development. Based on this knowledge, their work in stimulating and educating local communities to accept necessary change is crucial for the success of all schemes.

8. They will be concerned with overall social well-being and hence also with general economic productivity that is a necessary condition for social development and well-being; this will be furthered by improved housing through site and service schemes, better health through all aspects of home economics, enhanced understanding and capacity for participation in all community affairs through functional literacy, accepting responsibility for their members through community care for the disadvantaged—in effect, to enable all to lead fuller lives.

*Structure, Organisation and Staffing**

9. To achieve the purposes set forth in the foregoing section, modification will be required in the organisation and staffing of social development services. Elements having particularly important implications for organisation include: emphasis upon communities as the primary locus of development and the primary source of assistance to their members; the integrated nature of the development process and the necessity for interweaving the efforts of the people and technical field agents of many kinds into a cohesive team approach; the vital role of the community development worker in achieving productive team efforts at Village, Ward, District and Provincial levels.

10. In order to realise the unitary nature of all social development it is intended to merge the present community development and social welfare services into one integrated community development service. In cities, municipalities and townships, this integrated service should be administered by Local Authorities, and in rural areas by the Government Department of Community Development. Community development staff in cities and municipalities will be expanded so that they can also serve the peri-urban and rural communities which are now their responsibility within their extended boundaries. In those smaller townships which do not provide a community development service at present, the Government Department will assist by seconding members of its staff.

11. In keeping with Government's policy of decentralisation, programme operations should be delegated to the Provinces, carried out by the PCDO with a staff of five Community Development Officers, four of whom will have specialised in youth work, home economics, functional literacy and welfare. In the larger City and Municipal Community Development Sections, a similar structure will obtain.

*See Organisation Chart 1

12. Headquarters will be responsible for policy formulation and its overall implementation, as well as for recruitment, staff development, training and research. It will have a strong inspectorate in regular contact with the field in both rural and urban areas, to appraise policy implementation, programme operation and staff performance.

13. It is intended that the new Department of Community Development, within an appropriate Ministerial framework, implement an integrated approach to development, facilitate decentralisation, maintain and improve relationships with Local Authority Community Development Sections and allow for the maintenance of adequate standards through inspection and advice, and also unify the work of the new community development service in urban and rural areas and provide comparable conditions of service and salaries.

14. Community Development Assistants in the new integrated service in both urban and rural areas will be generalists in the context of the central function of facilitating ward and village development. They will undertake functional literacy work and will also in the first instance deal with the personal social problems occurring in the communities and groups with which they work, rendering social first aid. While most home economics work will be done by female staff, male CDAs must also have sufficient knowledge to initiate and guide women's clubs. All CDAs will also have a particular responsibility for promoting youth development. In all these areas of their work, they will be advised and supported by the Provincial or Local Authority CDO specialists.

15. Those social welfare functions which are carried out within the community will therefore be integrated in the new comprehensive community development service of Government and Local Authorities in rural and urban areas respectively. Institutions which serve mainly local areas will be transferred to Local Authorities providing places against payment for those outside their areas of jurisdiction. All will be re-examined in the light of the new community-based policy and structure. Institutions serving the whole country (e.g. Approved School) will remain the responsibility of the new Community Development Department of Government.

16. It is intended that the amalgamation of the two Government Departments of Community Development and Social Welfare take place early in the Plan period. The assumption of responsibility for social welfare services by urban Local Authorities must be a more gradual process.

Community Participation and Voluntary Agencies

17. Responsibility for the Council for the Handicapped, being a statutory body under Government control, will be transferred to the new Community Development Department on its amalgamation with the Social Welfare Department. This will give added weight to the pressure being exerted on the Council to change its orientation away from closed uneconomic institutions mainly for the blind, towards community-based training and assistance aimed at maximum independence and self-reliance for all handicapped. Community Development Assistants will be instrumental in enabling communities to provide care and support for their handicapped to be as independent as possible, will assist in identifying persons who could become self-supporting with training and/or prosthetic appliances and will provide the necessary after-care and support.

18. In all these fields of service and activity, community-based voluntary agencies will be encouraged to continue to co-operate with and augment Government and Local Authority services. A Council of Social Service, representing as far as possible both organisations and clients, will be reconstituted to co-ordinate the activities of its members, amongst themselves and with Government policy and services, to represent to Government the common interests of voluntary agencies and to channel grants to them. The Council will be assisted by a grant from the new Department to enable it to have a small professional secretariat.

19. In keeping with the overall emphasis on community involvement and participation, it is planned that two Government Committees—the Central Welfare Assistance Committee and, in conjunction with the Judiciary, the Zambia Probation Committee—be decentralised to provincial and, when possible, to District level; the Central Committee will retain responsibility for advising Government on policy and implementation. The Department, in co-operation with the National Food and Nutrition Commission, Under-Five Clinics of the Ministry of Health and with the Ministry of Education, will explore the possibility of establishing local Children's Committees, to bring the community consensus to bear on all matters of child care, including malnutrition, parental neglect, pre-delinquency, etc.

B. POLICY AND FUNCTIONS OF YOUTH DEVELOPMENT

Policy and Aims

20. The policy and aims will be:

(*a*) The national youth policy will aim to cater for all young people. The national youth plan is an integral part of the National Development Plan.

(*b*) Youth programmes will be geared in all major aspects to national development aims, and enable young people to participate in their planning and implementation. In as much as the Plan lays emphasis on rural development, such programmes will make particular provision for the participation of young people.

(*c*) Of primary importance is the principle to root youth programmes firmly in local communities, enabling youth at one and the same time to benefit from and contribute to the development planned and executed by their own people and themselves. Such programmes will be designed to relate closely to national and local development needs and will reflect the part young people can and must play in the progress of society as a whole.

(*d*) Programmes will aim at providing young people with opportunities to practise participatory democracy and to give service. By this means they will be enabled to develop self-reliance, and through service demonstrate the practical implications of the Philosophy of Humanism.

(*e*) It will be a major aim of this youth policy to utilise existing services in the community to serve also youth and thereby help to integrate young people into their communities. Co-operation between all agencies and the co-ordination of their programmes as they relate to youth will be essential to achieve the greatest impact with available resources.

Structure, Organisation and Staffing *

21. A major vehicle for the implementation of the policy and aims will therefore be provided by programmes already serving the community. These will be charged with giving specific service to youth and will devote part of their time to working with young people. All services involved will therefore need to be enlarged; existing and additional staff made available for such expansion will be given a particular youth orientation as part of their training and refresher training. Maximum encouragement will be given to the participation of voluntary agencies and individuals, and of young people themselves.

22. At Ward level, an integrated local youth programme must depend on community initiative and responsibility, expressed through and mobilised by the Ward Development Committees. A Local Youth Organiser, who will ordinarily be the Community Development Assistant, will be designated by the Committee to promote and co-ordinate youth work.

23. At District level, the District Development Committee will perform advisory, co-ordinating and planning functions in the field of youth. It will be served by a full-time District Youth Extension Officer and the District CDO.

24. At Provincial level, the Provincial Development Committee will have similar responsibilities and be served by the Provincial YEO and PCDO, assisted by his CDO (Youth).

25. At the National level, at the hub of the new organisation of youth work will be the Department of Youth Development, headed by a Commissioner for Youth Development, with an Assistant Commissioner and a staff of five professional officers. These will respectively advise on rural and urban programmes, Student Community Service, programmes of voluntary agencies and on research and training.

26. The Department will have functions that span the whole range of Government and non-Government youth work and should be so placed within the overall machinery of Government as to enable it to bridge the various sectoral programmes and approaches which relate to youth development.

27. The Department's functions in youth development are to assist executive Ministries and Local Authorities in planning and budgeting for their youth programmes; to co-operate with the Youth Development Association in planning and implementing youth programmes and provide financial assistance where necessary; to provide secretariat and professional services

*See Organisation Chart 2

to the Inter-Ministerial Committee on Youth and to assist that Committee and the Youth Development Association in evaluating and formulating policy in their respective spheres; to convene the Zambia Youth Forum and to channel the views and recommendations of these bodies to Government. It will also provide a clearing house for information in the field of youth development, undertake or sponsor research, including programme evaluations, and develop and initiate training programmes for youth workers.

28. There will be three other organisations which together with the Department of Youth Development will be responsible for youth affairs, the balanced implementation of the policy and the co-ordination of programmes.

29. The Inter-Ministerial Committee on Youth will be formally established as an essential instrument of policy review and revision. All Ministries sponsoring programmes for young people will be represented on the Committee, together with a few individuals who can make a special contribution. It will advise on the co-ordination of Government youth programmes, their correlation with those of Local Authorities and voluntary agencies, and try to ensure that funds are adequate and meaningfully distributed.

30. A Youth Development Association will be established on the initiative of the Commissioner for Youth Development, composed of representatives of all non-Government youth organisations, with a constitution which will ensure that there is direct and active representation by young people themselves at all levels. The Association will be assisted by a grant from the Department to enable it to have a small professional secretariat. The Youth Development Association will replace the defunct Youth Council of Zambia and its Interim Committee.

31. A Zambia Youth Forum will be convened at least annually by the Commissioner for Youth Development, to include young people representing all Government and non-Government youth organisations. It will have a small executive committee to operate in an advisory capacity to the Inter-Ministerial Committee on Youth and the Youth Development Association, and will have a right to be heard on both bodies.

Programmes

32. Consistent with the aims of the Plan, special attention will be paid to programmes for rural youth, who constitute more than two thirds of all young people, to provide training on production which will bring in cash returns and relieve unemployment and under-employment. The Ministry of Rural Development will provide the basis for rural youth development through a massive expansion and consolidation of open, out-of-school Young Farmers' Clubs. These will train boys and girls in simple farming techniques as well as in rural crafts, nutrition, child care and home management, and in civics, record and account keeping and savings. Farmers' Training Centres will make increasing provision for young people to further their YFC experience.

33. Young people with special aptitudes will be encouraged by Ward Development Committees and assisted by the Department to obtain further training in basic crafts to enable them not only to maintain their own farm more efficiently, but also to supplement their income from the service they can render to other villagers. Some will also be encouraged to become auxiliaries in medical and Under-Five Clinics, in community welfare work, pre-school classes and community schools and as nutrition demonstrators; the relevant departments will be urged to use these services and thereby expand their programmes. In all these schemes, voluntary organisations will be involved as much as possible by establishing programmes and providing training opportunities to supplement Government services, with Government financial and technical assistance where necessary.

34. In urban areas, community-based programmes which train for self-employment appear to have some potential for assisting a small number of young people in the towns, at present and for some time to come. There is a market for a variety of goods and services such as simple furniture-making and repairing, upholstery, fitting burglar bars and sign painting, which provide opportunities for individual and co-operative enterprise. Year-round vegetable growing on the outskirts of towns, often for sale on the plot at prices far below the market, is another opportunity. These ideas are not new as nearly 1X per cent of working youth are already self-employed. To be successful, such training schemes and facilities must be simple and low-cost and respond to changing needs and opportunities. The Luanshya Youth Development Scheme is an illustration of a successful and virtually self-supporting project. Participation in site-and-service and similar self-help schemes also provides useful experience while rendering valuable service, and will subsequently help in obtaining paid employment.

35. Several voluntary agencies are already offering or planning training programmes for girls, mainly in the domestic and home economics fields, and these need to be greatly expanded. The Department will encourage their extension to include other types of training as other employment opportunities become apparent, by giving advice and providing financial and technical assistance where necessary.

Student Community Service

36. Among the tasks assigned to the Department of Youth Development will be to investigate, in collaboration with the Ministry of Education, the feasibility of establishing a Student Community Service. This proposal is described in Chapter X on Education and Training.

Leisure Activities

37. There remains the need to encourage all bodies to provide and make the fullest use of all facilities for creative activities, not only for normally occupied youth but particularly for those unemployed and under-employed. Community development workers, voluntary agency leaders, neighbourhood associations, members of communities and particularly youth themselves should plan a great variety of programmes, using as venues whatever land and buildings are available, such as community centres, the premises of voluntary agencies, church halls, playing fields and sports stadia. The creation of interest groups—community service, crafts, music and arts, homecraft, sewing and cooking, drama, debating and civics—helps the formation of a group spirit, assists in overcoming a sense of rejection and failure and often provides the basis for the establishment of production and training projects.

C. TRAINING FOR SOCIAL DEVELOPMENT

38. Integrated generic training for social development will be provided at sub-university level, to teach the unitary nature of all social work and its vital role in the development process. These courses will give training in all community development functions including home economics, literacy, youth and welfare work. Re-training of existing workers will be undertaken where necessary. Urban and rural workers will be trained together on the same courses, as the basic principles are the same for both and considerable interchange already takes place.

39. The combined Government field level forces at CDA and ACDO grade of the separate Community Development, Literacy and Welfare staff number approximately 400. Already in 1970 the Personnel Division stated that a field work force of 500 is essential to carry out effectively the existing tasks in those areas of the country then covered. With the expanded functions of the new, integrated Department of Community Development and the need to cover more of the populated parts of the country, a field staff of 800 will be required, an increase of 100 per cent or 80 additional staff each year. Local Authority Community Development Sections will also need to be enlarged for the effective performance of their new tasks and in particular to cover the large peri-urban and rural areas within the expanded boundaries of the city and municipal councils, and those townships which at present have inadequate or no service; in their case a 50 per cent increase is envisaged.

40. At least three Training Centres will therefore be provided during the Plan period, running courses for a minimum duration of one full year. The training will be closely integrated with that provided on the Diploma course at the Oppenheimer Department of Social Service of the University, and a considerable proportion of officers will be expected to undertake this further training after three to four years in the field. In order to prevent the present high wastage during training and soon after, better selection procedures will be evolved to identify character and commitment, and mature entrants will be encouraged by special family allowances during training and lower educational requirements. For the time being the minimum entrance qualification will be junior secondary education and nineteen years of age. Preference will be given to older candidates and most younger ones will be expected to occupy a learner post for part of a year before going for training in order to gain experience and test their commitment and suitability.

41. New entrants with a university qualification will start their careers at grass-roots level to give them the essential fieldwork experience and insight before taking on administrative, supervisory and training responsibilities. Further training of existing staff at all levels will be undertaken at the training centres as well as refresher courses for all staff.

42. A separate Youth Leadership Training course will be provided at the larger of the training centres, to cater mainly for Government and Local Authority needs. This will have close relations with the Mindolo Ecumenical Foundation's youth leadership course, with the University and particularly with Community Development training. It will also provide facilities and staff for training all extension workers in the elements of their work involving young people.

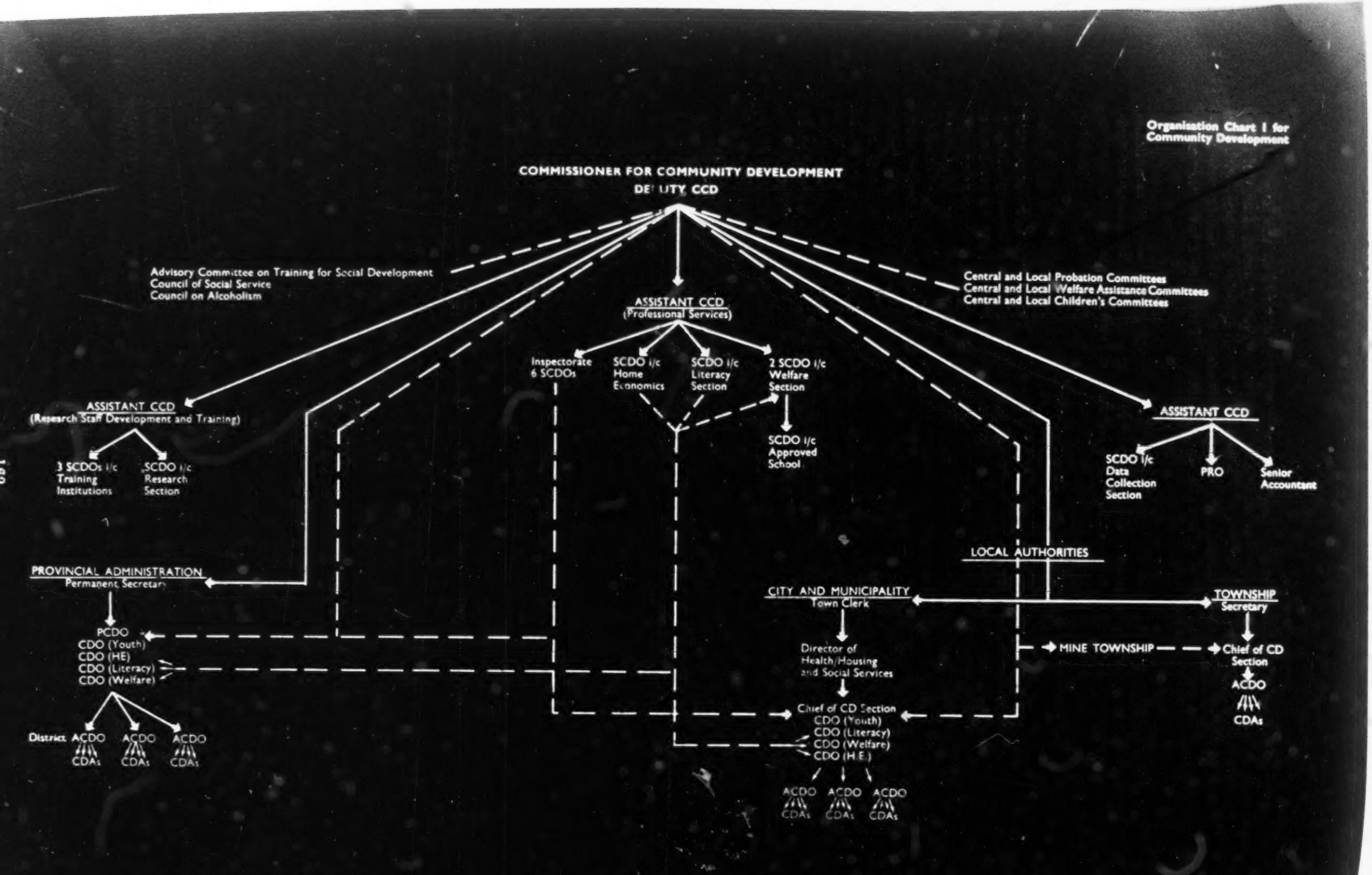
43. The Advisory Committee on Training for Social Development recently established by the Cabinet Manpower Committee will be fully involved in reviewing all training for community development and youth work, and in advising the two Departments.

D. FINANCIAL PROVISIONS

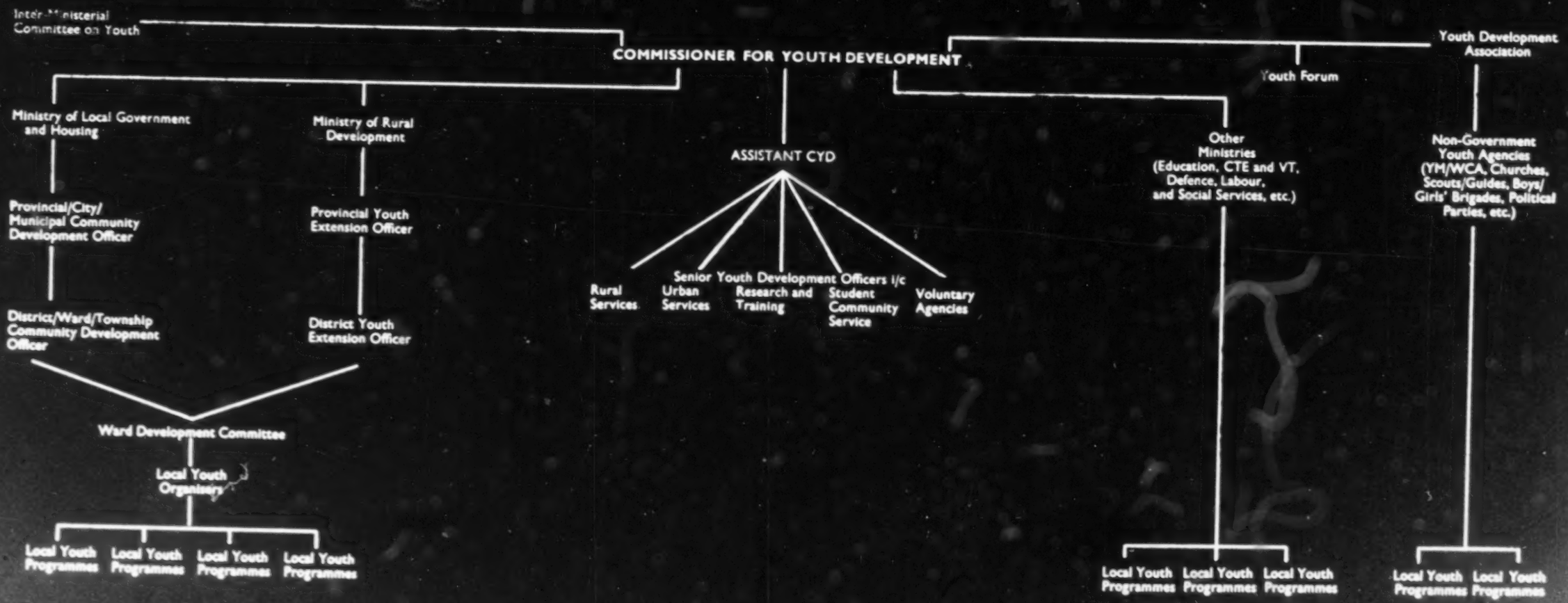
44. Detailed capital and recurrent estimates for the two new Departments of Community Development and Youth Development will be made when they are being established, largely by transferring and combining the separate SNDP provisions of the existing Departments. It is anticipated that some savings will accrue when providing one unitary social development service by integrating social welfare with community development functions, apart from those achieved by providing certain common administrative services. It is intended to utilise these to provide more widespread and better services to the community. Apart from a larger staff, training, research and the inspectorate will be strengthened and require additional funds. The new Department of Youth Development will require entirely new estimates, apart from taking over the small sum for grants to voluntary agencies and for a single officer from the Ministry of Home Affairs.

45. Capital estimates during SNDP for the Department of Community Development amount to K796,000 included in the allocations of the Ministry of Rural Development. Of this sum, K201,000 will be used to improve the facilities and provide staff housing where not available now at the existing three training centres at Monze, Kitwe and Kabwe. Capital estimates for the Department of Social Welfare in the Ministry of Labour and Social Services provide the sum of K722,000, of which K295,000 is earmarked for the work of the Zambia Council for the Handicapped.

Organisation Chart I for Community Development



Organisation Chart 2 for Youth Development



PART TWO
REGIONAL DEVELOPMENT

I. POLICY, PLANNING, PROGRAMMING AND ORGANISATIONAL ASPECTS OF REGIONAL DEVELOPMENT

INTRODUCTION

In the Second National Development Plan (SNDP), the Government will intensify policy measures to secure comprehensive regional development. Particular efforts will be directed towards raising income levels of rural population as also towards creating more social service facilities in rural areas.

2. This section will start with a brief outline of the past performance in the FNDP, followed by a description of the present structure, potential and the need for a regional development policy. Government policy and objectives in the field during the SNDP will be presented here together with the operational aspects of planning. In the sections that follow, more consideration will be given to matters relevant to this subject.

A. REVIEW OF PERFORMANCE OF REGIONAL DEVELOPMENT IN THE FNDP

3. The FNDP underlined the importance of balanced development of different regions of the country primarily because it was a pressing necessity since the country's past colonial heritage left the country severely unbalanced with regard to the various regions and areas.

4. During the FNDP there was a massive drift of rural population to the urban (Copperbelt, Lusaka and Kabwe) areas. In the period 1963 to 1969, the net immigration into these areas totalled 336,000 persons or 9.6 per cent of the country's total population, and 14 per cent of the population of the 'rural' areas. The dimensions of this drift have assumed serious proportions, which necessitate the adoption of appropriate counteracting policies.

5. Many programmes of regional development were undertaken during FNDP with particular emphasis on rural development. A great amount of expenditure was incurred to provide roads, schools, hospitals, clinics and other social service facilities to the rural areas which helped to raise the living standards of the rural population. But on the whole, diversification of the rural economy has not proceeded at the pace envisaged in the FNDP. Table 1 gives the distribution of capital expenditure by Provinces during FNDP.

Table I—Distribution of Capital Expenditure in the FNDP

Province	Population 1969 All races (thousands)	Planned		Actual		Percentage of Actual Capital Planned
		Total (K million)	per capita K	Total (K million)	per capita K	
Luapula	346	22.7	66	13.6	39	60
Northern	561	62.6	112	42.2	75	67
Eastern	522	40.6	78	29.5	57	73
Southern	508	94.5	186	91.4	180	96
Central	727	220.3	303	346.9	477	157
Copperbelt	838	74.3	89	101.1	121	136
North-Western	237	22.0	93	15.2	64	69
Western	421	27.2	65	19.0	45	70
Zambia	4,160	564.2	136	658.9	158	116
Three Line-of-Rail Provinces	2,073	389.1	188	539.4	260	141
Urbanised Provinces	1,565	294.6	188	448.0	286	152
Rural Provinces	2,595	269.6	104	211.9	82	79

Source: Planning Committee Estimates and Development Division of the Ministry of Development Planning and National Guidance.

6. It is evident from the above Table that K389 million, or 69 per cent of the total Government capital investment, was envisaged to be spent in the three line-of-rail Provinces. This high percentage does not signify any partiality on the part of the planners. In planning, there is need to apply scarce resources to areas and lines of investment which offer the best economic returns for the country as a whole. This sort of imbalance of investment is a characteristic of economic development in almost all countries of the world.

7. It can further be seen that in actual implementation, the line-of-rail Provinces (Southern, Central and Copperbelt), which contain 50 per cent of the country's population, absorbed 82 per cent of the total capital expenditure, leaving the remaining 18 per cent to be shared among

the other five Provinces. This development has aggravated in all probability the rural–urban migration. This phenomenon, however, can be viewed as a manifestation of the superior capacity of these more developed Provinces on the line-of-rail to absorb planned investments as against their rural neighbours.

B. PRESENT STRUCTURE OF THE COUNTRY'S REGIONS

8. The purpose of this section is to give an overall picture of the various economic components and their distribution throughout the country and to draw attention to their potential development through a coherent regional development policy. The present structure of the country's regions is depicted through major indicators in order to reflect the distribution of the country's human and natural resources as well as social services among provinces. These indicators, which depict regional distribution patterns, concern: (*a*) population and labour force, (*b*) urban–rural population structure, (*c*) education, (*d*) industry, (*e*) transport network, and (*f*) agriculture. (*See* map at end of book).

Population Distribution Between Provinces in 1963, 1969 *and Projected* 1976

9. Total population in 1963 was 3.6 million, out of which 87,000 were non-Africans. In Table 2, the distribution in 1963 and 1969 is given for the African part of the population, by Province, with estimated figures for natural increase and internal migration (external emigration and immigration believed to balance approximately). This Table shows that the two heavily urbanised Provinces grew from 1 to 1.5 million between 1963 and 1969 and are estimated to grow by almost another 0.5 million between 1969 and 1976. In percentages, they would grow from 29 per cent in 1969 to 42 per cent of total population in 1976.

Table 2—Distribution and Migration Movement of African Population, 1963, 1969 and 1976 (Projected) in Thousands

Province	1963–69					1969–76 Projected				
	1963 actual (adjusted)[1]	Natural Increase[2]	Migration	Net Increase	1969 actual (adjusted)[1]	Natural Increase[2]	Migration	Net Increase	1976	Percentage Increase 1969–76
Luapula	366	61	−82	−21	345	76	−38	+38	383	11
Northern	578	98	−116	−18	560	122	−60	+62	622	11
Eastern	492	83	−55	+28	520	114	−56	+58	578	11
Southern	477	80	−54	+26	503	110	−50	+60	563	12
Central	490	82	+135	+217	707	155	+104	+259	966	37
Copperbelt	520	88	+201	+289	809	177	+147	+324	1,133	40
North-Western	216	36	−16	+20	236	52	−22	+30	266	13
Western	372	62	−14	+48	420	92	−24	+68	488	16
Two urban	1,010	170	+336	+506	1,516	332	+251	+583	2,100	38.5
Six rural	2,500	420	−336	+83	2,584	568	−251	+317	2,900	12.2
Zambia	3,511	590	0	589	4,100	900	0	900	5,000	22.0

Source: Projections of the Planning Committee on Labour Force, Employment and Migration.

NOTES:

[1] Figures corrected for possible under-enumeration at Census time.

[2] Rate of natural increase for each of the eight Provinces is assumed to be the same as that for the country as a whole.

10. In absolute figures, migration to Central and Copperbelt Provinces of over 0.33 million between 1963 and 1969, is expected to slow down to 0.25 million between 1969–76. The rural Provinces, which increased less than 100,000, are assumed to grow by over 300,000 in 1969–76. According to the census, Luapula and Northern Provinces show decreases in population between 1963 and 1969 and this trend should be halted. The Government considers the rapid internal rural–urban migration between 1963–69 to be unusual, and a slowdown is assumed in future for the following reasons:

(*a*) in the first years after Independence, with the realisation of national unity, the manpower needs of Government and para-statal bodies attracted many people from all over the country;

(*b*) from now on a much higher proportion of staff can be recruited out of the 'natural increase' in the urbanised Provinces;

(*c*) the SNDP will increase the absorptive capacity of the rural areas, through improved productive, marketing and processing facilities and services.

11. Table 2 is based upon the impact of a sustained national effort to slow down migration to urban areas. These efforts will aim at minimising social problems created by increases of peri-urban population congestion and unemployment. As Table 2 shows, for the Eastern, Northern and Luapula Provinces, it is assumed that about half of the natural increase can be absorbed.

Urban and Rural Population (all races), 1963–76

12. In Zambia, as in other countries, the distinction between urban and rural population is not clear-cut; many people live 'in between'. From time to time, administrative borders are adjusted to bring peri-urban areas under municipal administration. Census figures would have to be adjusted. The figures (in thousands) presented in Table 3 therefore are approximations:

Table 3—Rural–Urban Distribution of Population by Province (All Races)
(thousands)

Province	1963			1969			1976		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Luapula	6	361	367	10	336	346	20	364	384
Northern	8	571	579	10	551	561	20	603	623
Eastern	10	484	494	15	507	522	30	550	580
Southern	52	433	485	68	440	508	116	452	568
Central	179	341	520	330	397	727	572	414	986
Copperbelt	487	76	563	744	94	838	1,100	62	1,162
North-Western	—	216	216	—	237	237	—	267	267
Western	5	368	373	11	410	421	20	469	489
Total	747	2,850	3,597	1,188	2,972	4,160	1,878	3,181	5,059

NOTE—Urban areas include Lusaka, Livingstone, Kabwe and the whole of Copperbelt (excluding Ndola Rural District) and also Chipata, Choma, Kasama, Mansa, Mazabuka, Mongu and Monze. Other townships are included in rural areas.
Source: Planning Division, Ministry of Development Planning and National Guidance.

13. If we further assume that 15 per cent of the rural population are wage earners and buy their food and major necessities (increasing from 428,000 in 1963 to 480,000 in 1976), the number of people in the monetary sphere of the economy would have risen from 1,175,000 in 1963 to 1,634,000 in 1969 and to 2,358,000 in 1976, or from 33 per cent to 47 per cent of total population in the short span of thirteen years. The number of people in the monetised sector would have risen by 39 per cent in 1963–69 and would rise by 44 per cent in 1969–76, or by about 3 per cent per annum.

14. Because most of the small townships, mainly through governmental development effort, grow at a fast pace the surrounding rural areas may expect to receive a favourable developmental impact. For agricultural as well as industrial policy this is very important and the Government intends to centre its development policy for the rural areas on this changing economic pattern.

Labour Force

15. Table 4 represents the growth of labour force during the period 1971–76 in the various Provinces. The rate of growth of labour force is nearly double that of the rate of growth of the population in the rural Provinces, whereas the labour force seems to increase at a rate which is only slightly higher than the population growth rate in the two urban Provinces.

16. Not all of the rural population can find a satisfying or adequate livelihood in agriculture—traditional, emergent and commercial combined. Over the last decade, the smaller townships have expanded as fast as the larger municipalities. As centres of production, trade and services, these townships are expected to play an important role in regional distribution of population, economic activities and income.

Education

17. Table 5 presents a comparison of primary school enrolment with the estimated seven to fourteen age group, by Province, over the First Plan period. These figures are at best indicative and must be treated with caution. Apart from the unavoidable lack of precision of the age group estimates, the primary schools enrol children who are younger than seven and older than fourteen. However, the Table is a useful, if rough, index of educational provision in the provinces.

Table 4—Growth of Labour Force in the Provinces, 1971–76
(thousands)

Province	Labour Force 1971 M	Labour Force 1971 F	Labour Force 1976 M	Labour Force 1976 F	Annual Growth Rate 1971–76 per cent: Labour Force	Annual Growth Rate 1971–76 per cent: Population
Luapula	69.0	40.7	77.1	50.8	3.1	1.6
Northern	97.5	61.6	111.4	74.7	3.2	1.5
Eastern	98.6	72.4	109.8	86.5	2.8	1.5
Southern	119.0	65.5	132.5	84.0	3.3	1.7
Central	211.7	82.0	265.0	112.0	5.1	4.5
Copperbelt	237.4	72.4	298.1	103.6	5.3	4.8
North-Western	50.5	35.7	57.7	44.1	3.4	1.7
Western	83.7	64.3	97.3	80.3	3.7	2.1
Two Urban Provinces	449.1	154.4	563.1	215.6	5.2	4.7
Six Rural Provinces	518.3	340.2	585.8	420.4	3.2	1.7
Zambia	967.4	494.6	1,148.9	636.0	4.2	2.9

NOTES:
1. M—Males; F—Females.
2. Totals may not add due to rounding.

Source: Estimates by the Planning Division, Ministry of Development Planning and National Guidance.

Table 5—Primary School Enrolment and Estimated 7–14 Year Age Group by Province, 1966 and 1970

Province	7–14 age group (thousands) 1966	7–14 age group (thousands) 1970	Primary Enrolment as % of 7–14 age group 1966	Primary Enrolment as % of 7–14 age group 1970
Luapula	82.0	81.4	49.8	75.0
Northern	134.0	135.0	48.0	73.4
Eastern	111.1	116.1	46.7	69.2
Southern	112.2	117.2	65.4	84.0
Central	117.1	148.3	62.4	75.1
Copperbelt	134.4	176.9	78.0	81·6
North-Western	43.4	46.4	45.4	70.3
Western	76.7	83.3	58.9	80.7
Zambia	810.9	904.6	58.4	76.8

18. Not only did educational provision improve in each Province, but there was a marked levelling out between Provinces. In fact the relative uniformity between Provinces in the proportion of the age group enrolled is remarkable by comparison with most African countries. The gap between rural and urban provision has narrowed considerably. This is largely attributable to the much slower rate of increase of the rural age group, which made relatively smaller demands on educational provision.

19. The fact that a substantial proportion of rural children are unable to continue beyond Grade IV must also be taken into account. The First Plan proposed that three out of four rural children, and all urban children, should be able to continue from Grade IV to Grade V by 1970. While the urban target was met, in the five wholly rural Provinces the average progression rate from lower to upper primary school in 1969–70 was hardly more than 60 per cent. This indicates that much of the discrepancy between rural and urban educational provision is at the upper primary level, not at the initial intake level. In fact, if these figures are taken at face value, Southern and Western Provinces must have superior coverage at the lower primary level than the line-of-rail urban Provinces.

20. Table 6 shows increases in schools and classes over the Plan period by Province. Schools tended to become larger, mainly by growing to full size. Schools in rural Provinces are far smaller than in urban, a reflection of relative population densities. In fact, over 80 per cent of all Zambian primary schools are single-stream, with two classrooms used on a double-session system for Grades I–IV, and three classrooms for Grades V–VII. The shortage of accom-

modation in urban areas is indicated by the fact that many schools run their lower primary sections on a triple-session basis, and some have double-session upper primary sections as well. It follows that, although urban schools are generally much larger than rural, the average number of classes per school is well in excess of the average number of classrooms per school.

21. Further evidence of strain is shown in the average numbers of pupils per class, which have increased significantly since 1966. Luapula, Northern, Central and Copperbelt Provinces had average class-sizes of between 38.8 and 39.5 in 1970, which indicates that a high proportion of classes in these Provinces enrolled more than the regulation maximum of forty pupils.

22. It is also noticeable that the expansion of existing schools is a more important factor than the number of new schools built in raising the level of school provision.

Table 6—Primary Education: Schools and Classes, 1966 and 1970, by Province

Province	1966		1970		Increase 1966–70 in percentage		Average No. of classes per school		Average No. of pupils per class	
	Schools	Classes	Schools	Classes	Schools	Classes	1966	1970	1966	1970
Luapula	207	1,050	238	1,544	14.9	47.0	5.1	6.5	38.8	39.5
Northern	376	1,652	469	2,549	24.7	54.3	4.4	5.4	38.9	38.9
Eastern	336	1,391	419	2,165	24.7	55.6	4.1	5.2	37.2	37.1
Southern	417	2,057	432	2,576	3.6	25.2	4.9	5.9	35.8	38.2
Central	256	1,874	317	2,870	23.8	53.1	7.3	9.0	39.0	38.8
Copperbelt	187	2,952	210	3,713	12.3	25.8	15.8	17.7	35.5	38.8
North-Western ..	132	552	174	917	31.8	66.1	4.2	5.3	35.7	35.6
Western ..	290	1,309	305	1,784	5.1	36.3	4.5	5.8	34.5	37.7
Zambia	2,201	12,837	2,564	18,118	16.5	41.1	5.8	7.1	36.9	38.3

Industrial Indicators

23. The location pattern of the manufacturing establishments is characterised by a high degree of agglomeration in the line-of-rail Provinces. Table 7 shows that 98.5 per cent of the total number of industrial establishments in 1969 were concentrated in the Copperbelt, Central and Southern Provinces. The line-of-rail Provinces contain all the industrial activities and establishments in the Nation with the exception of some food and textile industries. Even in the food, beverage and tobacco industries, 94 per cent of the total number of the Nation's establishments, as well as 97 per cent of the total number of textile establishments, are located in these three Provinces.

24. It is worth noting that a substantial portion of the material inputs for some of the industries located in these three Provinces are produced or located far out from these three Provinces, e.g. timber for timber industry. Spatial decentralisation, especially for agro-industrial activities, between regions is of high importance. Intensive development in carefully selected areas will serve to decrease these imbalances.

25. The picture of employment follows more or less the pattern of industrial location. Table 8 shows that 97.3 per cent of total employment in the industrial sector in 1969 is contained in these three Provinces alone while 84 per cent of total national employment is contained in these three Provinces. The Western and North-Western Provinces accounted for 0.4 per cent of the national industrial employment. Similarly Luapula, Northern and Eastern Provinces, provided 2.3 per cent of the national industrial employment. Needless to say that the pattern of employment distribution can affect and in turn be affected, by the pattern of industrial location. Therefore, planned regional manpower training and the decentralisation of investment are needed to provide increasing employment opportunities in rural Provinces.

Road Transportation Network

26. The highly concentrated pattern of mining and manufacturing industries is reflected in the transportation network, firstly the railroad and next the road network. Table 9 shows that 75 per cent of all roads—over 19,000 km—and nearly 53 per cent of bitumen and gravel roads were in the five rural provinces. It is only when considering bitumen alone that the three line-of-rail Provinces account for 70 per cent, with Luapula, Western and North-Western Provinces having none outside the provincial capitals.

Table 7—Distribution of Manufacturing Establishments Among Provinces by Manufacturing Activity—1969

Provinces Activity	Luapula	Northern	Eastern	Southern	Central	Copperbelt	North-Western	Western	Three Line-of-Rail	Five off Line-of-Rail	% of Three Provinces	Total
Food, beverage and tobacco industries ..	1	1	1	8	31	40	1	1	79	5	94	84
Textile industries ..	—	—	3	18	27	56	—	—	101	3	97	104
Leather	—	—	—	—	1	3	—	—	4	—	100	4
Timber-based industries	—	—	—	3	17	17	—	—	37	—	100	37
Paper, Pulp and Printing	—	—	—	1	10	23	—	—	34	—	100	34
Chemical industries ..	—	—	—	—	10	19	—	—	29	—	100	29
Petroleum	—	—	—	—	—	1	—	—	1	—	100	1
Rubber	—	—	—	1	3	9	—	—	13	—	100	13
Plastic industries ..	—	—	—	—	2	4	—	—	6	—	100	6
China and Glass	—	—	—	1	3	2	—	—	6	—	100	6
Building material ..	—	—	—	3	16	23	—	—	42	—	100	42
Iron and Steel	—	—	—	—	1	1	—	—	2	—	100	2
Non-ferrous Metal ..	—	—	—	—	1	4	—	—	5	—	100	5
Metal industries	—	—	—	6	41	108	—	—	10	—	100	155
Others	—	—	—	—	3	7	—	—	10	—	100	10
Total	1	1	4	41	166	317	1	1	524	8	98.5	532

Source: Calculated from INDECO Survey.

Table 8—Distribution of Employees, Total and in Manufacturing, Among Provinces, 1966–69

Province	1966				1969			
	Total	Manufacturing	Percent of Total Employment	Percent of Manufacturing Employment	Total	Manufacturing	Percent of Total Employment	Percent of Manufacturing Employment
Luapula	5,920	108	1.9	0.3	6,710	87	2.0	0.2
Northern	12,470	2,697	4.2	0.8	18,070	178	5.5	0.6
Eastern	11,650	523	3.9	1.8	13,530	533	4.1	1.5
Sub-total	30,040	898	10.0	2.9	38,310	798	11.6	2.3
Southern	36,740	4,561	12.2	15.1	33,310	4,829	10.3	14.0
Central	86,820	8,715	28.6	28.8	97,970	10,708	29.8	31.0
Copperbelt	135,574	16,047	44.8	52.8	144,040	18,081	43.9	52.3
Sub-total	259,134	29,233	85.6	96.7	275,320	33,618	84.0	97.3
North-Western	5,030	—	1.6	—	5,420	—	1.6	—
Western	8,560	127	2.8	0.4	9,250	156	2.8	0.4
Sub-total	13,590	127	4.4	0.4	14,670	156	4.4	0.4
Grand Total	302,764	30,348	100.0	100.0	328,300	34,572	100.0	100.0

Table 9—Distribution of Road Network by Type Between Provinces, 1971 (km)

Province	Bitumen	Percentage	Gravel	Bitumen and Gravel	Earth	Total
Luapula	2	—	860	862	1,250	2,212
Northern	562	19.5	960	1,522	5,250	6,772
Eastern	280	9.7	760	1,040	4,330	5,370
Sub-total	844	29.2	2,580	3,424	10,930	14,354
Southern	551	19.1	580	1,131	1,810	2,941
Central	976	33.7	1,520	2,496	3,810	6,306
Copperbelt	502	17.4	520	1,022	580	1,602
Sub-total	2,029	70.1	2,620	4,649	6,200	10,849
Western	16	0.5	930	946	3,170	4,116
North-Western ..	4	0.1	800	804	5,190	5,994
Sub-total	20	0.6	1,730	1,750	8,360	10,110
Grand Total ..	2,893	100.0	6,930	9,023	25,490	35,313
Percentage	8	—	19	27	73	100

Source: Roads Department and Transportation Committee.

27. First priority in the construction of bituminous roads in the FNDP was given to the opening of new foreign trade routes towards Tanzania and Malawi. However, besides the tarring of the roads to Tunduma and Chipata (except for a small stretch on the latter) by the end of the FNDP and during 1971, the construction of tarred road links between provincial centres and Lusaka had already started: the Lusaka–Mongu and Chingola–Solwezi roads as well as the branch-roads Livingstone–Sesheke and the road link connecting the Great East Road with Feira.

28. During the SNDP, Government will make further improvements to roads on the basis of the relatively well developed network of earth roads already existing in all parts of the country, linking the centres within each Province as well as providing connections between Provinces and to the major towns. Such improvements to the roads system must provide this essential infra-structure prerequisite for economic development. As road construction and even improvement is costly, a careful examination of the development potential and social needs of different areas must be made, closely related to the investment allocation pattern.

Agricultural Indicators

29. This is a complex subject because agricultural pursuits are very diversified. According to a special census of 'commercial agriculture' carried out in 1968, there were an estimated 1,200 commercial farmers out of which 600 were on freehold or leasehold land. These farmers had a total of 1,200,000 hectares of land available for cultivation, out of which 150,000 hectares were cleared, and they owned 183,000 head of cattle. At the same time, there were an estimated 329,000 traditional farmers having 708,000 hectares under six main crops (perhaps 750,000 under all crops) and they owned 1,400,000 head of cattle.

30. The commercial farms were heavily concentrated in the Southern and Central Provinces, whereas the traditional farmers were evenly spread over the rural areas.

Selected activities of Commercial Farmers (percentage per Province)

	Southern	*Central*	*Copper-belt*	*Other*
Land	41	52	4	2
Land cleared	53	41	4	2
Head of Beef Cattle	64	29	6	2
Dairy Cattle	44	38	16	2

Southern and Central Provinces contain the bulk of commercial agricultural production. In 1968, the value of products sold by the commercial farmers amounted to K16.8 million and they paid out K10 million in wages. Nearly all this income accrued in Southern and Central Provinces.

31. As far as tradional agriculture is concerned, Table 10 can only be considered a first and rough approximation based upon a survey in 1968–69. The results of the more comprehensive agricultural census of 1970–71 are not yet available. There are, however, important differences between the Provinces. Eastern, Southern and Central Provinces have the highest figures. Luapula and Western Provinces have the lowest per person.

32. However, there is a great deal of other income, from livestock, fisheries, etc. Table 11 shows the distribution of cattle by Province.

Table 10—Population, Traditional Farmers, Area Harvested and Value of Six Crops Per Farmer and Per Hectare, 1968–69

Province	People in traditional agriculture (thousand)	Farmers (thousand)	Total[1] arable land (thousand hectares)	Value six crops consumers value (K thousand)[2]	Value Produced		
					per person (K)	per farmer (K)	per hectare of arable land (K)
Luapula	269	52.8	52	4,840	18	91	93
Northern	314	48.8	74	9,810	31	202	132
Eastern	494	80.7	215	21,480	43	265	100
Southern	300	36.5	178	13,340	44	364	75
Central	153	18.7	65	6,700	44	358	103
Copperbelt ..	47	8.1	12	1,470	31	183	123
North-Western ..	172	32.4	30	4,010	23	124	134
Western	394	51.1	80	6,540	17	128	82
Zambia	2,143	329.1	706	68,190	32	207	97

[1] In some Provinces there is considerable 'mixed cropping'.
[2] The six crops consist of: maize, millet, sorghum, cassava, groundnuts and beans.
Source: CSO Surveys.

Table 11—Distribution of Cattle by Province

Province	Head of Cattle in thousands	Head of Cattle per farmer
Luapula	4.4	0.1
Northern	60.9	1.2
Eastern	196.7	2.4
Southern	567.3	15.4
Central	152.6	8.1
Copperbelt ..	4.3	0.5
North-Western ..	21.8	0.7
Western	349.3	6.8
Total	1,357.3	4.1

From this summary Table, it follows that animal husbandry among traditional farmers is strongest in Southern and Central Provinces, but Western Province also depends to a large extent on cattle.

33. The regional distribution of marketed surpluses from the traditional sector is only known approximately. Data regarding some of the major crops are presented in Table 12.

Table 12—Marketed Products from Traditional Farmers Through Official Channels, 1968–69

(Metric tons)

Province	Maize	Ground-nuts	Seed-cotton	Burley Tobacco	Oriental Tobacco
Luapula	3,320	35	—	—	13
Northern ..	10,150	25	6	—	35
Eastern	2,080	6,993	10,315	181	12
Southern ..	76,700	255	955	9	—
Central	25,000	—	3,650	2	17
Copperbelt ..	1,200	3	—	1	—
North-Western	2,580	26	—	—	—
Western ..	2,000	12	4	—	—

34. It follows that the major producers of maize for the line-of-rail markets are Southern and Central Provinces. Some Provinces, like Copperbelt, have to import maize from elsewhere. In groundnuts, Eastern Province is the major commercial producer. In seed-cotton, Eastern Province comes first, followed by Central and Southern.

35. The figures for beef cattle are not easily identifiable, because many animals are officially butchered beyond the provincial borders, but here again, Southern and Central Provinces are the main suppliers. It is Government policy to spread production for the market more evenly during the SNDP, but it must be recognised that for remote areas mainly high-price, low-bulk crops are preferred because of transport cost. Also, veterinary measures must be geared towards opening up areas for marketing animal products.

36. There is, especially for the food crops and animal products, a great amount of local unregistered sale and bartering. The volume and value of this internal trade cannot be easily assessed. Improvement of marketing and processing, through small-scale enterprises and co-operatives, is urgently needed during the SNDP.

C. REGIONAL DEVELOPMENT POLICY AND OBJECTIVES

37. As already stated, the alleviation of existing imbalances between rural and urban areas in terms of economic differences and social inequity is a high priority task of the SNDP. A sound regional development policy is needed to accomplish this task.

38. Besides the horizontal development of each Province, the developmental efforts should not neglect the possibility of vertical concept of development. This concept, based on the optimal utilisation of comparative advantages of natural resources, i.e. soil, climate, water and others, leads to production specialisation of each respective region and/or area. In these and similar cases, the provincial boundaries should not be an obstacle to joint ventures of two or even three Provinces. This introduces a concept of inter-regional development and integration.

39. In that respect, the SNDP will initiate comprehensive regional development and Plan implementation which, based on the principle of participatory democracy, will become an important instrument in achieving nationally more balanced economic and social development—a vital arm of the Zambian humanistic society.

40. The following are the main objectives of regional policy in the SNDP:

(*a*) to increase the level of income of rural populations in order to reduce the present widening gap between rural and urban areas, and to this end an increasing share of total resources available to the nation will be directed towards rural areas;

(*b*) to screen development projects from their regional, locational aspects; in that respect, pre-investment studies to evaluate the potential of the regions will be carried out in an integrated manner;

(*c*) to give increased assistance to small to medium-sized family farms in transforming their farming methods into more productive and market orientated ones, agriculture being the chief lever for developing rural areas;

(*d*) to increase employment opportunities and personal income of the masses in rural areas; wherever possible, exploitation of natural resources will be encouraged to provide employment and to create centres of cumulative economic and social services in undeveloped areas;

(*e*) to study and identify market centres and apply appropriate investment policy toward developing these centres with the aim of increasing efficiency and standards of living of remote scattered population groups;

(*f*) to start implementing a longer-term programme of establishing Intensive Development Zones (IDZs) so as to lay the foundations for integrated regional development;

(*g*) to assist villages in areas outside the IDZs or without development projects, through extension, community development and other services with the aid of improving the farming, nutritional and hygienic levels.

D. OPERATIONAL ASPECTS OF REGIONAL PLANNING

Organisation for Regional Planning

41. The further national, economic, social and political integration advances, the easier it will be to reach a balance between national and regional planning approaches and to plan effectively for 'comprehensive' development. The prerequisite for achieving this balance are the institutions for regional development to identify and study existing and potential needs, mobilise resources and increase participation at the regional level. These institutions will also co-ordinate planning and implementation activities between local and national levels, and serve as control centres in the regions during plan implementation to monitor progress and remedy on the spot problems.

42. Participatory democracy and decentralised decision-making has already been put into practice through the Provincial, District and Ward Development Committees and Village Productivity Committees. These have the functions of identification of the needs of people at various levels, and of offering advice and recommendations to the Provincial Cabinet Ministers, District Governors and rural councils respectively. This ensures that planning is from the bottom up, based on people's participation.

43. Some local programmes are centrally controlled while others originate and operate purely at the local level, and because Ministries have different regional structures, gaps and overlapping sometimes occur with considerable variations in consistency and effectiveness. To assist in the proper co-ordination of these various activities, and to prepare integrated programmes for balanced economic and social regional development, the nuclei of competent regional planning units will be set up in each Province. These provincial planning units will be given all necessary assistance by the Development Planning Division.

44. Several areas pertaining to the organisation of balanced regional development require prior study with a view to ensuring the consistent building up on the foundations laid in the form of Provincial, District and Ward Development and Village Productivity Committees. In view of the objectives of regional development in the SNDP, priority will be given to the following areas of study:

(*a*) regions for planning and plan implementation and factors involved in the rationalisation of local government boundaries should be identified. This will contribute to more meaningful regional planning and sound local boundaries for planning and implementation;

(*b*) a survey of the structure and methods of organisation for the various Central Government departments and their operations in the regions should be carried out;

(*c*) at the provincial, district and village levels, the structure and methods of organisation as well as the functions relating to planning and implementation should be assessed in relation to the requirements of consistent regional development and planning;

(*d*) Government policy is aimed at integrating, as far as possible, the urban-rural economy and a more even distribution of job opportunities in the country. This requires detailed analysis of the economic potential of every part of the Republic.

Economic Services in Rural Areas

45. The traditional farming sector, which engages well over half of the population, needs a network of economic services in order to increase production and cash income. These services are important for the nation as a whole, because the traditional farmers produce also for the urban areas and are buyers of goods and services from these areas.

46. During the FNDP the Government had already instituted a number of economic service institutions in order to assist the rural people. A number of para-statal bodies were entrusted with vital economic services, and service centres and sub-centres were established in all provinces to bring their services nearer to the people.

47. These policy measures will be continued and streamlined during the SNDP. In this context, the performance of the service institutions for credit, marketing and processing will be examined with a view to improving their organisation where needed.

48. Of great importance are small-scale industries, workshops and other service organisations in the rural areas. In order to stimulate small-scale businesses to become fully self reliant a subsidiary of INDECO—the Rucom Industries Limited seeks to promote Zambian small- and medium-scale industries, wherever these can be established.

49. A system will be devised during the SNDP which will channel investment funds to the small business in the rural areas. This will increase the number of Zambian nationals who are already operating many small-scale business enterprises.

50. Recent studies have established that many small producers earn a substantial part of their cash income from economic services (trade, processing, transport, distribution). This is a welcome development which Government intends to promote. Where local authorities influence these processes through licensing and other measures, they may need assistance and advice through the analysis of the economic processes they deal with.

51. An inventory of services was prepared during the FNDP for all provinces in Zambia. This information will be updated and used for the planning of services in co-operation with the various Government departments, development committees and the relevant servicing organisations. At the same time, the regional planning and development units will also review the effectiveness and adequacy of the existing service centres.

Intensive Development Zones

52. During the FNDP, the development of rural areas suffered from an undue dispersion of scarce resources—capital (finance and physical), qualified project and administrative personnel—and various kinds of productive inputs had taken place with insufficient increase in the output of the peasant farmers to which the programmes were directed.

53. During the SNDP, in addition to policies for improving institutional and economic services, specific attention will be devoted to well defined areas of development potential called Intensive Development Zones.

(i) *The Concept and Objectives*

54. The Intensive Development Zone concept is a major new policy strategy to concentrate public services and investment for integrated development of rural areas. Experience in many parts of world shows that progressive agriculture depends on a system of interlocking service of technical advice, production inputs such as credit and fertiliser, and marketing. Shortfalls in standards of one or more services may make other adequate services ineffective. These economic services must be complemented by social services such as health, education and community development, to foster a minimum standard of living and an environment conducive to productive enterprise.

55. In Zambia, there have been so far only a few examples of package programmes for farmers, and they have been executed in different ways. Crop orientated programmes in the FNDP included a successful cotton programme in three Provinces, and a promising tobacco programme in several Provinces. Co-operative programmes have been established through co-operative societies such as the Kafubu–Kafulafuta Society and they serve the food needs of nearby cities. Settlement programmes in other rural areas have relieved land pressure for small-scale farmers. This experience had demonstrated the need for a flexible approach, to the policy of matching development action to the needs of the people.

56. Establishment of Intensive Development Zones must start in areas with the greatest inherent potential within Provinces. Capital scarcity and organisational limitations dictate that areas must not be islands of development. The policy must provide an impetus to national and provincial economic and social development.

57. The objectives of the intensive development policy are interdependent. They seek to:

(*a*) decrease the disparity in social services between urban and rural areas;
(*b*) create self-sustaining improvement of incomes and productivity in the rural areas;
(*c*) moderate the rural to urban rate of migration;
(*d*) contribute materially to national self-sufficiency in agricultural commodities;
(*e*) mobilise rural resources for diversification of production and location of economic activity;
(*f*) provide a sound pragmatic base for future development of rural areas.

(ii) *Zone Selection Criteria and Preconditions*

58. The following criteria are applicable to selection of Intensive Development Zones within Provinces. Understandably, they may not apply to every zone under consideration:

(*a*) Cropping and carrying capacity based on response to fertiliser, water supplies, drainage and topography must be available in large enough parcels.
(*b*) Basic community structure should already exist.
(*c*) Sufficient population to justify the investment of men and capital in services and infra-structure is a basic condition.
(*d*) Basic agronomic and husbandry aptitude must already exist within the farming population.
(*e*) Existence of expected or actual propulsive factors such as tarred roads, railway, mines or processing plants is preferable.

59. Other considerations, not to be overlooked, are political and statistical boundaries and prevalence of non-farm employment and enterprise. The choice of an Intensive Development Zone may also depend on prior existence of a successful smaller project such as a settlement scheme for farmers. However, no Zone will be selected without a thorough investigation at the field level consulting with local personnel and soliciting grass-roots information.

60. Intensive Development Zones must promote essential preconditions to economic growth and development by providing adequate:

(*a*) transportation and other productive economic infra-structure for access to input, product and consumer markets;

(*b*) scale of marketing outlets for zone production;

(*c*) education and health facilities and services;

(*d*) servicing of farm needs by public marketing and credit organisations.

61. It has to be emphasised that all these have to exist within an environment which promotes economic, social and administrative decision-making. To assist in the achievement of the long-term objectives of IDZs, it may be necessary to provide some immediate cash income facilities as an interim measure until the zones become fully operational. Success, however, depends ultimately on achieving active participation and co-operation of the farm and village people in the zones.

62. The government will also take steps to insure steady improvement in co-ordination of marketing, credit, advisory and social services in the rural areas outside the Intensive Development Zones. Service centre development could be an efficient method of concentrating these services resulting in gains in efficiency.

(iii) *Areas to be Selected*

63. The Government is aware of the dangers of a premature and ill-planned programme; it accepts that the actual selection of development zones must be carried out with care. In this connection, a review of potential areas undertaken jointly by the Regional Planning Unit and the Ministry of Rural Development has established the existence of a number of acceptable alternatives in each of the eight provinces. Further investigation is now under way to establish priorities and the details of planning and implementation. In the brief summary that follows attention is focused upon the major agricultural characteristics of each Province, and their implications for a programme of intensive rural development.

LUAPULA PROVINCE

64. Agricultural development in the Province is limited by the shortage of high potential land and by inadequate infra-structural facilities. Communication with the potential markets of the Copperbelt will be much improved during the SNDP. The population concentrations along the Luapula Valley and the Mansa–Samfya area are also important local markets, as is the maize roller mill at Mansa. Beef cattle in tsetse-free areas and the fisheries of the Luapula and Lake Mweru, a traditional source of income, offer major scope for development.

65. Specialised schemes for bananas at Mununshi, tea at Kawambwa and rice in the Luapula Valley, are designed to involve local farmers in the supply of the Copperbelt market. In addition, a FAO/SIDA team is currently seeking to provide intensive credit and marketing services to farmers.

66. Intensive development in the Province, orientated towards internal and external markets, must consider the location, scale and relative success of these on-going projects and use this experience in the development of prospective zones.

NORTHERN PROVINCE

67. In Northern Province there are areas where expanding urban markets and the development of transport facilities combine to offer attractive prospects. Thus the Tanzam Railway together with the Great North Road will form an axis for development with a nucleus at Mpika, a centre scheduled for substantial expansion. The Kasama area, where existing schemes at Mungwi and Ngoli might act as nuclei for development, is another prospective zone.

EASTERN PROVINCE

68. Eastern Province possesses considerable reserves of high potential land with attractive prospects for arable and stock farming. Considerable investment in infra-structure has already been undertaken. In addition, prevailing population numbers are high enough, especially in the southern part of the Province, to take advantage of the opportunities that will be made available.

69. The family Farming Tobacco Scheme at Zemba is an existing IDZ, in embryo. Further schemes are being planned for Luwerezi, Lumezi and Sinde Misale–Vubwe. Such schemes are intensive in capital and supervision, with resettlement as an integral aspect. Alternatively, intensive development without major resettlement is possible in densely populated areas, based on established commodities such as groundnuts, cotton, tobacco, livestock (especially beef cattle) and maize. Studies are needed to ascertain the optimal balance between these forms of development.

Southern Province

70. Much of Southern Province is well equipped with services and infra-structure. Extensive catchment conservation planning has been undertaken in the past, and the Province has access to urban markets by rail and tarmac road. Many of the farmers have had long-standing contact with commercial agriculture; effective development should seek to enable such farmers to capitalise upon the markets and infra-structure available.

71. Intensive development in this Province might well concentrate upon the co-ordination and supplementation of existing services in selected areas. Such programme would seek to offer an effective combination of credit, marketing and extension aids to farmers, and might well use existing schemes (Ngwezi or Muchila) or any of the well developed hierarchy of settlement centres as nuclei. Further resettlement schemes planned, which would augment this approach, would offer the same kind of service provision.

Central Province

72. Central Province is an area of variable natural resources. Soils vary from red clays to skeletal hill soils, and water prospects range from good to indifferent. Careful location of zones to exploit these resources is essential if the market potential for a wide range of products of Lusaka, Kabwe, and the line-of-rail is to be tapped.

73. The Lusaka–Mumbwa road is a natural axis for future intensive development based upon maize, vegetables, meat and dairy products. Keembe, where a scheme is already in operation, or Mumbwa township, might well serve as nuclei. There are prospects for small scale development in other selected areas of the Province. Munkonshi, where a settlement programme will augment the existing tobacco scheme, is a case in point.

Copperbelt Province

74. The urban population of the Copperbelt constitutes a large and expanding market for most kinds of agricultural produce, and especially for maize, meat and dairy products. Intensive development in this Province should clearly be orientated towards this demand, and might well concentrate upon the provision of better services in existing production areas, at Kafubu/Kafulafuta or Ipafu. Alternatively, in view of the low prevailing population densities in the rural areas, intensive development might involve further, relatively small-scale resettlement in selected areas of high potential. Mpongwe, an area of fertile soils, adequate water, with basic infra-structure already in existence and a successful Farmers Training Centre, has been suggested as a potential IDZ area. It, however, requires further appraisal.

North-Western Province

75. Distance from major markets, poor transport facilities, and a thinly scattered population are all handicaps to effective development in this area. There are areas of medium/high potential soils, however, where the specialised production of high value/low bulk commodities might well act as a basis for intensive development, given the necessary investment in transport facilities. Similar small-scale development might be orientated towards food crop production for local markets: Solwezi, Kabompo, with its roller mill, or the Kalengwa mine, are possible nuclei.

Western Province

76. Western Province is handicapped by its scattered population and generally poor soils. There is a substantial area of fertile soil at Kaoma and also in Lukulu and Kalabo. However, in the east and elsewhere in the Province, there are considerable prospects for livestock and fisheries development. Further, the effective market for the Province will be enlarged with the improvement of the Lusaka–Mongu Road. With this in mind, the intensive development of mixed farming, oriented towards the service facilities that already exist at Mongu and Kaoma, merits appraisal. This might also consider the prospects of complementary development of the proposed One-Acre Tobacco Scheme at Kaoma.

(iv) *Managerial Principles*

77. Considerable investment in funds and personnel in a chosen zone depends on technical and social considerations and requires the close co-operation of a number of Ministries. Therefore, an Advisory Inter-Ministerial Committee is being considered as the senior management body which may be officially instituted when the Plan is accepted by Parliament. This Committee would advise Government on IDZ policy, projects, expansions and budget strategies and also review progress reports from the field. This procedure would foster continuous planning and evolution of the IDZ concept.

78. The Ministry of Rural Development will exercise a responsible position in the planning and implementation of the IDZs through a central office affiliated to that ministry. The responsibility for tying the IDZ plans into co-ordinated national and regional planning at various levels, will lie with the Development Planning Division.

79. Such co-ordination will not be limited only to that between the Planning Division and the Central Ministries, but will also cover the relation of the IDZs to the adjacent parts of the country (i.e. the inter-regional level).

80. Each zone will be managed by a team-leader or manager. He will be responsible for internal policy and day-to-day operations and will maintain close contact with the provincial and district authorities where the programme operates. He is entitled to contact directly the local representatives of the various Ministries and para-statal bodies in order to obtain and maintain smooth working relations. Where appropriate, various Ministries, particularly the Ministry of Rural Development, as well as statutory bodies, will second local staff to the team.

81. It is highly important that each zone has a consolidated 'One-line' budget, agreed upon from year to year, on the basis of evolution and detailed plan of operation, The inclusiveness of the one-line vote, for social investments and the involvement of executive Ministries must be the outcome of most serious thought and planning of final IDZ policy.

82. In its relation to farmers, small-scale processors or traders, the programme will try to be all-inclusive in the long run. It will not enforce binding rules on the people, but instead will work through incentives for self-help, on a selective basis using a judicious mix of intensification and expansion. It is essential that lack of cohesion and incoherent timing of action and investment do not inhibit motivation of the people.

83. Intensive Development Zones will involve a substantial level of public spending and constitute an investment in the future of the rural areas. Evaluation, therefore, will be carried out as an ongoing parallel action to IDZ management. Independent outside evaluators will monitor the performance of the IDZ's relation to objectives, and suggest modification of policy to maintain a high level of efficiency of Government action. The evaluation will depend on benchmark data for the zone as well as timely current data. A statistical unit must accompany the work of implementing IDZ policy.

84. At some point in time, the intensive development policy must phase out of the designated zones, coinciding with achievement of self-sustaining standards of living and growth of incomes and productivity. The timing of the end of intensive development will be determined by the valuation results and the capability of executive Ministries to assume the service functions of the zone management.

(v) *Staffing*

85. Experience elsewhere shows that the most pressing problem, apart from highly qualified leadership, is adequate local staffing. This reaches from political level to commodity advisers. Special training is necessary for the large number of extension, marketing and credit staff, as well as community development, health and nutrition officers and other organisation officers.

86. Wherever possible, for each zone or possible combination of two zones of similar characteristics, a Farmers Training Institute will temporarily serve as a Staff Training Centre. To avoid depletion of services in the remainder of the Province, new staff with lower secondary education will be trained on the job.

87. It is essential that existing and new staff for various departments and statutory bodies be trained simultaneously and to a large degree integrated. At the level of implementation, early integration is the best method to assure close co-operation. It is hoped that the lessons learnt in the Intensive Development Zones will be applied, as soon as feasible, to executive ministry activities.

(vi) Budget

88. The size of the budget will effectively govern the size of the impact of IDZs on the rural economy. The absorptive capacity of the rural economy for investment and change is another limiting factor. For IDZs to accomplish the stated objectives for the 450,000 rural families in Zambia, the budget must provide for adequate scale of operation and opportunity to proceed when the inevitable initial difficulties are overcome.

89. A tentative K17.5 million is currently being considered for the IDZ programme over five years. Representation will be made to bilateral and multilateral aid programmes for supplementary funding of investment and personnel. Planning and investigation costs will be borne within current budgets of executive Ministries.

90. Initially four zones will be established with priority given to the remote Provinces. Selection of zones should be completed by March, 1972. The outline of limits and size of the zones will proceed with social surveys and physical planning through the dry season of 1972. Implementation of action to remove organisation and service bottle-necks can proceed by the end of 1972 with full-scale zone management and investment at the end of the first quarter of 1973. Thus the first phase of the IDZ policy should be accomplished by mid-1973. The second phase will be to select IDZs for the remaining four Provinces and achieve full implementation.

91. Achievement of this time-table will require full-time inputs of staff from the earliest planning stages on. Skeleton management staff including the zone managers should be in the zones by the end of 1972. Actual time of expenditures will depend on these factors.

II. PROVINCIAL INVESTMENT PROGRAMMES

A. GENERAL REVIEW

1. In the preceding chapter, the need for comprehensive regional development policy has been emphasised in long-term policy perspective and operational measures for regional planning has been spelled out.

2. Investment allocation as an instrument to ensure consistency between the implementation of this operational policy measures are to be designed and spelled out in such a way so as to cope with and fully implement the objectives of the regional plan. In that respect, to operationalise investment allocation in a general and comprehensive frame, it is conceived here that central Ministries allocatable expenditures and investments for each Province will be balanced with provincial expenditures and/or investments. The criteria has to be identified and spelled out in order to ensure consistency between provincial investments and the inter-sectoral relationship. These criteria are:

(*a*) to ensure balance between economic optimisation on the one hand and progress on the other across Provinces;

(*b*) Investment decentralisation with particular emphasis towards rural areas to create necessary conditions for more social equity;

(*c*) to decrease the drift of rural population to urban areas, and

(*d*) to ensure the operationality and mechanism of material inputs—products outputs type of relationships.

3. Ministerial investments are currently being balanced with provincial expenditure and to that extent consistency between urban and rural areas development will be reflected in spatial as well as sectoral investment allocation.

4. Meanwhile, only an analysis of provincial investment programme is presented in the next section. The provincial investment programme shows lump-sums allocation for every Province by each activity/sector. Projects and programmes are being worked out in consultation with the local development committees and provincial authorities. It should be emphasised here that these lump sums for each Province are of preliminary nature and subject to modification necessary to fully integrate and balance the provincial investment frame with the national, so that objectives and policy measures of the national Plan in general and the regional plan in particular can be fulfilled in the most successful way.

5. Table 13 shows that the total amount allocated to the eight Provinces comes to K80.86 million. Preference is given to outlying rural Provinces which is reflected in the share of 14.9 per cent for Western Province, 13.3 per cent for Northern Province, 13.2 per cent for Eastern Province, while Copperbelt and Central Provinces have shares of 11.3 per cent and 11.7 per cent respectively.

Table 13—Provincial Investment Programme, 1972–76
(K thousand)

Province/Sector	Judiciary	Provincial and Local Government	Information	Health	Education	Transport	Lands and Natural Resources	Rural Development	Social Service	Total	%
Luapula	500	600	75	910	2,040	2,095	910	3,275	50	10,455	12.9
Northern ..	280	232	100	1,090	3,560	2,080	300	3,058	50	10,750	13.3
Eastern	200	750	80	1,020	3,295	1,900	220	3,153	50	10,668	13.2
Southern ..	120	630	64	990	1,900	2,970	580	3,280	—	10,534	13.0
Central	150	860	94	703	4,589	950	219	1,850	—	9,415	11.7
Copperbelt ..	150	200	46	380	5,413	1,390	95	1,440	—	9,114	11.3
North-Western	100	593	77	666	1,403	2,647	183	2,123	50	7,842	9.7
Western ..	330	670	110	880	2,023	4,000	688	3,326	50	12,077	14.9
Total ..	1,830	4,535	646	6,639	24,223	18,032	3,195	21,505	250	80,855	100.0
Percentage ..	2.3	5.8	0.5	8.2	30.0	22.3	4.0	26.6	0.3	100.0	—

6. A sectoral breakdown reveals the importance of educational sector: 30 per cent of the total investment is planned in this sector. The provincial allocations within the sector 'rural development' amounts to 26.6 per cent and the transport sector to 22.3 per cent of the total while all the other sectors remain below 10 per cent.

7. The map (*see* end of book) illustrates graphically the allocation of provincial expenditure among activities or sectors in relation to total population for every province for 1971 and 1976. It illustrates a comparative picture between Provinces with respect to population, provincial investment and sectors.

B. PROVINCIAL INVESTMENT PROGRAMMES

Luapula Province

Table 14—Investment Programme for Luapula Province, 1972–76
(K thousand)

Ministry/Department	Provincial Submissions
Provincial and Local Government and Culture ..	600
Information, Broadcasting and Tourism	75
Labour and Social Services	50
Health	910
Power, Transport and Works	2,095
Education	2,040
Lands and Natural Resources	910
Rural Development	3,275
Legal Affairs	500
Total	10,455

8. Provincial submission within the Ministry of *Health* include the construction of six new rural health centres at an estimated cost of about K275,000.

9. In the provincial *educational* sector, the major part of the capital investment is planned for the construction of new lower (12) and upper (71) primary streams (K1.3 million) and the replacement of old primary schools (K750,000).

10. Provincial submissions within the Ministries of *Rural Development and Lands and Natural Resources* include K680,000 for the extension training section, K485,000 for numerous projects of the Fisheries Department and K340,000 for the Forestry Department.

11. Provincial submissions within the Ministry of Power, Transport and Works (K1.6 million) will provide for a better feeder roads network, especially upgrading the roads Mansa–Musonde Falls–Kasheba, Chiengi–Luchinda, Chiengi–Kawambwa, Kawambwa–Kalungwishi, Kapalala junction with the Samfya–Serenje road. An additional K130,000 will be spent on tarring roads in Mansa.

Northern Province

Table 15—Investment Programme for Northern Province, 1972–76
(K thousand)

Ministry/Department	Provincial Submissions
Provincial and Local Government and Culture ..	232
Information, Broadcasting and Tourism	50
Labour and Social Services	100
Health	1,090
Power, Transport and Works	2,080
Education	3,560
Lands and Natural Resources	300
Rural Development	3,058
Legal Affairs	280
Total	10,750

12. Provincial submissions of the Ministry of *Provincial and Local Government and Culture*, amounts to K232,000 and are earmarked for capital grants to Local Authorities.

13. Capital estimates of the Ministry of *Power, Transport and Works* for the province include K1.7 million for the improvement of feeder roads, especially the upgrading of the Mbesuma–Isoka Road and the bridge over the Chambeshi River. In addition to this the planned

extension and construction of office accommodation and facilities of the Buildings Branch in all districts will cost K100,000; K120,000 is allocated for the construction and extension of MSB workshops.

14. Provincial allocation within the *educational* sector accounts for the construction of 21 new Grade I classes and 140 new Grade V classes at an estimated cost of K2.5 million. In addition, K440,000 is allocated for replacement, and K300,000 for the erection of practical rooms.

15. An amount of K517,000 is to be spent on ten new rural health centres or the improvement of existing ones.

16. The Provincial submissions within the Ministry of *Rural Development* include K790,000 for the Department of Water Affairs, K460,000 for the projects of Community Development and K440,000 for the Veterinary Department.

Eastern Province

Table 16—Investment Programme for Eastern Province, 1972–76
(K thousand)

Ministry/Department	Provincial Submissions
Provincial and Local Government and Culture ..	750
Information, Broadcasting and Tourism	80
Labour and Social Services	50
Health	1,020
Power, Transport and Works	1,900
Education	3,295
Lands and Natural Resources	220
Rural Development	3,153
Legal Affairs	200
Total	10,668

17. The provincial submissions within the Ministry of *Provincial and Local Government and Culture* emphasises the improvement of roads; K207,000 are provided for the construction of bridges and roads. Another K180,000 has been earmarked for the improvement of water supply.

18. The Provincial estimates for the *health* sector contain K517,000 for the construction of ten rural health centres and the improvement of existing ones.

19. An amount of K2.35 million is to be spent for the construction of *primary schools*, of which 123 will be Grade V classes and 26 Grade I classes. An additional K373,000 is earmarked for replacement.

20. The bulk (K1.6 million) of the provincial submissions within the Ministry of *Power, Transport and Works* is for improvement of road standards. The main project will be the completion of the Vubwe–Chadiza Road.

21. The provincial submissions within the *Ministry of Rural Development* include K280,000 for a new Farmer Training Centre in Jumbe and K530,000 for expansion and improvement of the existing centres. Apart from this, K500,000 is allocated for water supplies.

Southern Province

Table 17—Investment Programme for Southern Province, 1972–76
(K thousand)

Ministry/Department	Provincial Submissions
Provincial and Local Government and Culture ..	630
Information, Broadcasting and Tourism	64
Health	990
Power, Transport and Works	2,970
Education	1,900
Lands and Natural Resources	580
Rural Development	3,280
Legal Affairs	120
Total	10,534

22. The provincial submissions concerning the *health* sector include K990,000 for new rural health centres and improvements to existing ones.

23. For the programme of road development within the provincial submissions K2.4 million will be spent to upgrade provincial roads. This includes upgrading to Class II the road from D361 to Pemba and paving the roads D344 Kalomo–D718, Monze–Nteme, and D376 Chisekesi to Gwembe Mission. K214,000 is allocated for the Mechanical Services Branch.

24. The planned capital expenditure for the provincial *educational* sector of K813,000 provides for twenty-four Grade I classes and thirty Grade V classes. An additional K436,000 is to be spent on replacements, and K342,000 on practical rooms.

25. The capital allocated to the provincial responsibility of the *Ministry of Rural Development* amounts to K3,280,000.

Central Province

Table 18—Investment Programme for Central Province, 1972–76
(K thousand)

Ministry/Department	Provincial Submissions
Provincial and Local Government and Culture ..	860
Information, Broadcasting and Tourism	94
Health	703
Power, Transport and Works	950
Education	4,589
Lands and Natural Resources	219
Rural Development	1,850
Legal Affairs	150
Total	9,415

26. The provincial submissions within the Ministry of *Health* contain K305,000 for the construction of seven new rural health centres and the improvement of existing ones.

27. The provincial submissions of the Ministry of *Power, Transport and Works* include an allocation of K737,000 for the improvement of local roads; bigger projects worth mentioning are the tarring of the roads D195 Kabwe–D623, R114 Mukubwe/Ngabwe and Bothas Rust Road.

28. Main projects within the provincial submissions of the Ministry of *Rural Development* include K343,000 for the extension training section, K310,000 for the Kabwe Regional Research station, and K250,000 for a settlement scheme.

29. Within the provincial *educational* sector, K3 million is earmarked for the construction of new primary schools, of which 123 are new Grade I classes and 62 are new Grade V classes. An additional amount of K510,000 is to be spent on replacements and K440,000 on the provision of practical rooms.

Copperbelt Province

Table 19—Investment Programme for Copperbelt Province, 1972–76
(K thousand)

Ministry/Department	Provincial Submissions
Provincial and Local Government and Culture ..	200
Information, Broadcasting and Tourism	46
Health	380
Power, Transport and Works	1,390
Education	5,413
Lands and Natural Resources	95
Rural Development	1,440
Legal Affairs	150
Total	9,114

30. Most of the provincial submissions within the Ministry of *Provincial and Local Government and Culture* concern the construction of office blocks (K123,000), and for a cultural village at Ndola (K20,000).

31. The provincial submissions for the *health* sector include K150,000 for the construction of rural health centres and the improvement of existing ones.

32. Within the *educational* sector, 152 new Grade I classes and 62 new Grade V classes will be provided at an estimated cost of K3.8 million. An additional K665,000 will be spent on replacements and K617,000 on establishing practical rooms.

33. Provincial submissions within the Ministry of *Power, Transport and Works* include K766,000 for the improvement of local roads. The main projects are:

the Munkupe–Machiya–Luswashi Road
the M18–St Mary's Mission–Chinemu Road.

An amount of K200,000 is provided for the construction of a new depot for the Buildings Branch at Kitwe. In addition K69,000 is earmarked for the extension of workshops of the Mechanical Services Branch.

34. The bulk of the planned investment under provincial responsibility within the Ministry of *Rural Development* goes to the Department of Water Affairs (K567,000). A sum of K314,000 is allocated for the extension and training section, while K273,000 is earmarked for settlement schemes.

North-Western Province

Table 20—Investment Programme for North-Western Province, 1972–76

(K thousand)

Ministry/Department	Provincial Submissions
Provincial and Local Government and Culture ..	593
Information, Broadcasting and Tourism	77
Labour and Social Services	50
Health	666
Power, Transport and Works	2,647
Education	1,403
Lands and Natural Resources	183
Rural Development	2,123
Legal Affairs	100
Total	7,842

35. Provincial submissions within the Ministry of *Provincial and Local Government and Culture* include an amount of K200,000 for local roads and K120,000 for the improvement of water supply in the province.

36. Allocations under *health* sector provide for the construction of five rural health centres at an estimated cost of K275,000.

37. Provincial planning in the *educational* sector accounts for the erection of fourteen new Grade I classes and thirty-nine new Grade V classes involving an expenditure of K800,000.

38. A sum of K167,000 is planned to be spent on replacements of primary schools and K126,000 on establishing practical rooms.

39. The provincial *transport* sector makes provision for the improvement of the road network with an amount of K2 million. This includes the following projects:

Mwalya–Mize embankment, providing all-weather access to Mize
Zambezi–Mpidi road to be upgraded to Class III
Construction of Kabombo–Mwinilunga road.

In addition, K106,000 is earmarked for the improvement of Mechanical Services Branch workshops.

40. Provincial submissions within the Ministry of *Rural Development* include K718,000 for the Department of Water Affairs, K280,000 for the Research Station in Mwinilunga and K500,000 for farmer training.

Table 21—Investment Programme for Western Province, 1972–76
(K thousand)

Ministry/Department	Provincial Submissions
Provincial and Local Government and Culture ..	670
Information, Broadcasting and Tourism	110
Labour and Social Services	50
Health	880
Power, Transport and Works	4,000
Education	2,023
Lands and Natural Resources	688
Rural Development	3,326
Legal Affairs	330
Total	12,077

41. Provincial submissions within the Ministry of *Provincial and Local Government and Culture* include K194,000 for the improvement of roads.

42. Funds allocated under the *health* sector provide for the construction of eight new rural health centres and the improvement of existing ones at an estimated cost of K442,000.

43. Within the *educational* sector, provincial projects include the construction of twenty-seven new Grade I classes and thirty-seven new Grade V classes at a cost of K1.17 million. An additional amount of K306,000 is to be spent on replacements, and K236,000 on establishing practical rooms.

44. Provincial submissions within the Ministry of *Power, Transport and Works* include K4 million for the development of roads, Mechanical Services Branch and for office accommodation.

45. Provincial submissions within the Ministry of *Rural Development* include K1.1 million for the extension training section and K600,000 for the research stations. K460,000 will be spent by the Department of Water Affairs for the improvement of water supply in the province.

PART THREE

POLICIES AND MEASURES FOR PLAN IMPLEMENTATION

POLICIES AND MEASURES FOR PLAN IMPLEMENTATION

The implementation of the SNDP will take place under much less favourable conditions than those which prevailed during the FNDP period. One important underlying cause is the fact that during the SNDP period Zambia cannot count on any improvements in the terms of trade between copper prices on the one hand and import prices on the other. The very favourable terms of trade has been one of the main contributors to the achievement of a high rate of growth of the national economy in the FNDP. As the country's economy is still influenced, to a high degree, by the vicissitudes of copper prices, the development objectives in the SNDP have been adopted with some caution. This means that targets and objectives of development of the national economy as a whole and of its various sectors will have to be realised largely through domestic effort and greater self-reliance.

2. The second unfavourable factor is connected with the current monetary crisis in the world, as a result of which the developed countries are taking measures aimed at self-protection that will further adversely affect the conditions under which developing countries will be able to implement their development programmes.

3. Since Zambian economic development depends very much on the international market for both exports and imports, the country must adopt appropriate policies and measures to ensure the realisation of the targets and objectives of the SNDP.

4. The sectoral chapters of the Plan contain targets and objectives of development in all the main sectors of the national economy. When formulating plans for these sectors, account was taken of the need for inter-sectoral balance and efforts were made to set targets together with the measures, organisation and policies which are deemed necessary for their implementation. While each of these chapters can be considered as an integrated piece, there are questions of policies and organisation which pertain to the economy as a whole, which are vital for the satisfactory implementation of the Plan.

5. The purpose of this section is to spell out policies, improvements of organisation and other measures contributing to efficient Plan implementation at various levels and their follow-up. The relevant aspects regarding these policies are dealt with under the following heads:

(*a*) Continuous planning;
(*b*) Planning machinery;
(*c*) Administration for rural development;
(*d*) The public sector;
(*e*) The institutional framework;
(*f*) Regional economic co-operation;
(*g*) Technical assistance;
(*h*) Plan discipline.

A. CONTINUOUS PLANNING

6. Planning is a continuous process, and the formulation of a national plan for a period of five years is not sufficient to ensure that its objectives and targets will be achieved. As the economy, and particularly Government revenue, depend much on copper, the prices of which are difficult to predict, the targets of the SNDP cannot be considered fixed and unalterable. They are capable of achievement provided the Plan assumptions regarding world trade are fulfilled. This requires, more than in other developing countries, careful and continuous evaluation of the developing economic conditions and trends with a view to the realisation of set goals.

7. During the FNDP, Government's annual Budgets constituted the principal means of current Government economic policies. In order to achieve better results, the SNDP is proposed to be worked out through a succession of Annual Reviews. These will provide a review of results of development in the preceding year and will estimate trends for the ensuing year. This procedure will enable Government to take early corrective action in respect of projects and programmes falling behind the rate at which SNDP targets and objectives are to be achieved.

8. Annual Reviews will also contain projections of the most important indicators of the development of the economy. These indicators will include estimated Government revenue and expenditure, wages, incomes, prices and the measures necessary for keeping the economy on the

right track of growth within available resources, thus avoiding the dangers of inflationary tendencies. Annual recurrent and capital budget estimates will be part and parcel of the Annual Reviews, which will be presented in the usual way to Parliament for consideration.

9. The Development Planning Division will prepare the Annual Reviews in consultation with the Ministries concerned. The first Annual Review will be for 1973, in which the performance of the economy in 1972 will be evaluated. The Division, again in consultation with Ministries and Provinces, will draw up an appropriate framework and machinery for regular progress reporting and will assist in the preparation of Provincial Annual Reviews.

10. By this method, the Government will continuously be reviewing and planning economic and social development to ensure that the decisions taken at various levels will be based on a thorough and comprehensive assessment of the implications which these decisions are likely to have. Here, the National Economic Development Committee and Provincial Development Committees will have to play a particularly important and active role.

B. PLANNING MACHINERY

11. In view of the need to diversify and improve the country's economy in order to increase its economic and political independence, it is of paramount importance to develop a strong and efficient national planning organisation, not only to draw up plans and ensure their implementation, but also constantly to evaluate economic trends and advise Government accordingly.

12. While many improvements were made in planning methods and organisation for drafting the SNDP, various difficulties were still encountered. In order to improve the planning machinery further, the specific functions of all organisations in any way involved in planning at any level, their relationship and means of co-operation, and particularly the role of its national planning organisation, need to be clearly defined.

13. In order to implement the country's social and economic policies, based on the principles of Humanism and participatory democracy, the organisation of work on national planning requires a greater degree of integration and co-ordination at the following levels:

National: Ministries, Government agencies and financial institutions for development;
Regional: Provinces, districts and towns.

14. *At the National level:* The Development Planning Division is the Central Planning Office in the Government administrative structure. The main functions of this office will be:

(*a*) to serve as the advisory body of the Cabinet on all economic policies, planning and organisational matters which affect economic and social development of the country;

(*b*) to prepare Cabinet drafts on strategy and objectives of social and economic development to guide Ministries, provinces and para-statal organisations in the preparation of the national plans for specific periods;

(*c*) to prepare, in co-operation with Ministries, para-statal and other organisations, provinces and the private sector, drafts of Annual Reviews and medium-term and long-term national plans of social and economic development, and to submit them for consideration and approval of the Government;

(*d*) in conjunction with the Ministry of Finance, to ensure that Government budgets, as one of the main instruments of plan implementation, are consistent with approved national plans, and to prepare capital and developmental recurrent budget allocations;

(*e*) in collaboration with planning authorities in provinces, to assess the material resources in various regions of the country and work out plans and programmes of social and economic development of provinces, with the aim of achieving a balance in regional development, thereby narrowing the gap between advanced and backward areas in the country;

(*f*) to assist Ministries and para-statal bodies in the identification and appraisal of national projects and finally to approve them in order to ensure, by means of a comprehensive analysis of economic, technical, employment and other aspects, the optimal benefits of projects for the national economy and society, as well as the compliance of projects with the established priorities of national development plans;

(*g*) to organise, in close co-operation with the National Council for Scientific Research and the University of Zambia, economic and social research and studies related to the needs of social and economic development and planning in Zambia, as well as training courses for planners;

(*h*) to examine the requirements for consultant studies in various sectors of Government and approve their programmes for Government financing, after fully considering the need to develop the country's national research and consultancy capacity; full use will be made of consultant services available through the UN agencies and through bilateral technical assistance arrangements;

(*i*) to examine the need for technical assistance and work out annual and medium-term programmes in accordance with the objectives and priorities of national development plans.

15. At the level of *Executive Ministries*, Planning Units will be established and existing ones further strengthened where necessary, so that they will be responsible for sectoral planning and plan implementation of their respective Ministries. These Planning Units will develop ideas and policies to facilitate the medium- and long-term planning of respective sectors in consultation with the Development Planning Division. As the main agencies for implementing the Plan, these Units will have to see to it that industrial and other companies, including the para-statals, carry out Government policies as laid down in the National Development Plan and programmes. A particular task of the Planning Units of Ministries will be to identify, evaluate and recommend projects significant for the fulfilment of planned targets. In addition, the Units will have to study systematically all important aspects of production efficiency such as organisation of work, management practices, cost and quality of products, applied technology, etc. Where the necessary expertise is not yet available locally, Ministries will request for technical assistance through the Development Planning Division.

16. All para-statal organisations will be obliged to co-operate fully with their respective Ministries and departments, under whose purview they fall, in the elaboration of sectoral and sub-sectoral plans according to the instructions and guidelines for Plan preparation issued by the Development Planning Division, which will examine and ensure the internal as well as inter-sectoral and inter-regional coherence of all sectoral plans.

17. Emphasis will be on the organisation of professional work for improving *regional development planning*—in the provinces, districts and in towns. This requires proper co-ordination with the Development Planning Division. For unless the strategy and objectives of development in provinces are conceived of in the context of the development of the country as a whole, the economy will lose sense of direction and undergo patterns of development which do not produce desired results. A two-tier, closely related regional planning system will therefore be worked out: at the national level, through the Regional Planning Unit of the Development Planning Division, and at the level of Provinces, through Provincial Planning Units.

18. The development of adequately staffed Provincial Planning Units is a task which cannot be accomplished in a short period of time. The Development Planning Division, through its Regional Planning Unit, will therefore give all necessary assistance to provinces in the formulation of plans and policies concerning regional and urban development aimed at achieving better balanced inter-regional development in the country. Similarly, assistance will be provided with the systematic collection of data on resources for development and on development trends in provinces, and with their cartographic presentation and analysis.

19. Close and continuous co-operation between the Development Planning Division, the Provincial Planning Units and the Department of Town and Country Planning is indispensable for making possible integrated regional planning. To this end, the Department of Town and country Planning will see to it that all established or new settlements which have been selected for industrial, agricultural, tourist or other development have a Development Plan in advance of the construction of social or economic infrastructure. The Development Plan should indicate zones for various land uses complementary to the anticipated growth in the National Plan period and should have a clearly defined policy on density and integration of housing in keeping with the National Plan objectives. The effectiveness of the Department's role will hinge not only on the close liaison and co-ordination with the various development agencies concerned, but also on the structure, organisation and staffing of the Department. It will therefore need strengthening and re-structuring so that it can play its full role in national development.

20. Assistance and guidance need to be available at Provincial, District, and Ward Development and Village Productivity Committees to make participatory democracy stronger in that the people and their representatives will be able to take their decisions on the issues of economic and social development based on the knowledge of the alternatives, their costs, as well as benefits likely to accrue to the population.

21. A Central Manpower Assessment and Planning Unit will be set up in the Development Planning Division to discharge a variety of functions connected with manpower assessment and planning and particularly to indicate the broad spectrum of present and future supply and demand of skilled manpower. In co-operation with the Labour Department, efforts will also be made to bring about an efficient and integrated Employment Service through: (i) the complete reorganisation of employment exchange, (ii) providing employment market information on a periodical basis, and (iii) a better and more comprehensive vocational training and careers guidance and counselling service.

C. ADMINISTRATION FOR RURAL DEVELOPMENT

22. The decentralisation reforms of 1968 established new political and administrative structures at the provincial and district levels of Government. The establishment of Village Productivity and Ward Development Committees in 1971 has completed the structure of participatory democracy in planning matters.

23. With the increasing number of projects requiring a multi-disciplinary approach, and with the sheer volume of projects that the SNDP will bring, the time has come to ensure much more integrated planning and execution of projects at the local level. The power to prepare detailed plans, to make meaningful decisions and to commit development funds must be delegated to effective local units of Government in order to develop local communities as total entities rather than as fragmented economic and social sectors. Given an effective combination of departmental resources and professional expertise, together with the political and administrative leadership already established at provincial, district, ward and village levels by the decentralisation of Government, the achievement of co-ordinated rural development is greatly facilitated.

24. Lusaka-based Ministries will remain responsible for national policy and overall planning, and certain specialist services will continue to be provided on a national rather than a local basis, but Ministers in charge of the provinces are fully responsible to Parliament for the major activities of plan implementation within their own areas.

25. During the SNDP, planning and plan implementation will have to be carried out with better co-ordination between the development officials from the central Ministries and those under the provincial administrations than was the case during the FNDP. In this connection appropriate administrative reorganisation will be introduced.

26. To implement successfully the decentralised decision-making structure and to ensure its smooth functioning it will be necessary to identify and clearly define the allocation of responsibilities at various levels of Government administration.

D. PUBLIC SECTOR

27. Since the introduction of the 1968 Mulungushi and the 1969 Matero economic reforms, the Government has been increasingly participating in the national economy, either by complete take-over or in partnership with the private sector. The para-statal sector will be fully under mandatory planning due to its nature and functions. However, as the primary goal of development planning is the development of MAN and raising his living standard, those business organisations in which Government has a controlling share must become important vehicles for carrying out the main policy objectives of the SNDP aimed at the diversification of the national economy, the reduction of prices, the stabilisation of the cost of living and reducing the income and employment gap between rural and urban areas.

28. The form of para-statal organisations represents a marriage between the principle of flexibility in business operations and the social needs of the community. The social role of the para-statal sector has to be properly balanced by the necessary freedom of action in business operations. The para-statal organisations must, in the first place, be economically viable units, displaying utmost care for a continuous improvement in management, organisation and technology leading to cost reduction and better product quality—in brief, to acquiring competitive economic strength. In this way the para-statal organisations will make an important contribution to the growing needs of the economy.

29. The Planning Units of Ministries will have to review regularly the efficiency of the para-statal organisations falling under the purview of their respective Ministries. The working of the para-statals will also be subject to inspection and review by agencies authorised by the Government for this purpose, such as the Auditor-General. The influence of the profit motive on

para-statal operations will also be examined with a view to deciding items for which social considerations, including price stability, should take precedence over profit-making. If subsidies then become necessary as a consequence, these must be restricted to the extent absolutely necessary. This exercise will include consideration of the profit levels desired by Government for various para-statal activities.

30. Para-statal organisations are best suited to the re-investment of profits, derived mainly from sales in urbanised and higher income line-of-rail areas or by exports, into industries scattered in lower-income rural areas suffering from unemployment, without hampering the principle of their economic viability. This is another way by which the para-statal section can serve the social needs of the community.

31. The early establishment of a National Import Agency to control the imports of goods in bulk is essential for checking unjustified price increases, which can jeopardise price stability and endanger the realisation of development objectives. The Ministry of Trade and Industry will ensure that goods not covered by the National Import Agency are purchased from whatever source is cheapest, particularly from neighbouring developing countries having industrial capacity of an order which will meet Zambian needs.

E. INSTITUTIONAL FRAMEWORK

32. The stage of development which the economy has now reached requires some improvements in the institutional framework for the fulfilment of the country's further development envisaged in this Plan. The country's economy will remain a mixed one in which the private sector will have to continue to play its proper role.

33. The introduction of an Industrial Investment Code mentioned in Chapter IV will be an incentive for the much needed private investment from local and foreign sources.

34. The expansion of the economy in the SNDP will also require more efficient operation of the credit system. The existing financing institutions such as the building societies, insurance companies, Agricultural Finance Company and Findeco will participate in the financing of projects on a larger scale than in the past. Action has already been taken for the early establishment of a Development Bank, which is particularly important for financing new industrial projects in view of the high priority assigned to industrial development in the SNDP and in future development plans.

35. Monetary control exercised by the Bank of Zambia will be supported by complementary fiscal measures. Government will continue to enforce necessary fiscal discipline. Concerted efforts will be needed to mobilise revenues of Government and savings.

F. REGIONAL ECONOMIC CO-OPERATION

36. The developing countries must reduce their dependence on imports from the industrialised countries and rely more on trade among themselves. Although, since 1960, trade among low-income countries has increased at a faster rate than their overall trade, the former accounts for a mere 3–4 per cent of world trade. Developing countries on the average sell less than one-fifth of their exports to one another and this ratio is much lower in Africa. Successful economic development, especially industrialisation, requires markets which are sufficiently large to provide economies of scale and ample scope for specialisation. These benefits are not, however, limited to cost saving or a monetary stimulus to production but are intricately linked with the dynamics of sustained development.

37. It is therefore advantageous for neighbouring developing countries to co-operate in combining their markets and agreeing on a rationalised programme of industrial development. Though joint planning of industrial activities on a sub-regional level has to be developed gradually, some degree of co-ordination of national industrial plans is both desirable and feasible. The expansion of trade within a sub-region will also be promoted by establishing better links to reduce the cost of transport.

G. TECHNICAL ASSISTANCE

38. As a result of increased training and a deliberate policy of Zambianisation, the country succeeded in decreasing the number of employed foreigners in spite of a significant increase in total employment. However, a considerable number of foreign experts are still required. The foreign wage bill absorbs more than a quarter of the country's total wage bill, while the personal remittances abroad of employed expatriates exercise a heavy pressure on the country's balance of payments.

39. While the education and training of Zambians both at home and abroad will speed up the process of Zambianisation, it is impossible to produce sufficient numbers of highly skilled and experienced experts in a short period of time and Zambia will still be compelled to employ a substantial number of highly skilled expatriate experts in the immediate future. These experts will be required particularly in business management, in institutions of higher learning, in health services, in highly technical fields and in the administration. These experts are needed to work in close co-operation with the domestic manpower for the implementation of the basic development objectives of the country in the coming years.

40. An expansion of the technical assistance by the United Nations, other multilateral agencies and by a large number of developed countries will therefore be sought to overcome the country's serious lack of highly skilled manpower and to reduce the implication for the foreign wage bill. Government will continue to provide the necessary funds from its own resources to cover the local costs of technical assistance projects.

H. PLAN DISCIPLINE

41. Acceptance at all levels of the discipline of planning and plan implementation is one of the main conditions for the success of the Plan. This is particularly important for the rural sector, where the various agencies for plan implementation are widely dispersed and where the major part of Government investment to promote development is aimed at increasing the capacity of the rural people to achieve greater self-reliance and higher productivity. Not only is there a very wide range of Government agencies and of institutions sponsored by sectoral Ministries at provincial, district, ward and now at village level, whose activities have to be co-ordinated and their expenditures controlled, but also the rural population they are to serve and stimulate is scattered over a very wide area.

42. One of the most important objectives of development planning is to secure the optimal use of financial and manpower resources available to Government at all levels in support of the people's own efforts to increase their productivity and standard of living. An investment programme set within the framework of policies elaborated at the outset of the five-year period must clearly be sufficiently flexible to accommodate regular revision in the light of changes in circumstances over the ensuing five years. The concept of plan discipline, therefore, must be carefully balanced by that of flexibility—it must not lead to an uncritical adherence to the magic of a printed document whose relevance may decrease with time.

43. In the sense outlined, every effort will have to be made to ensure that the SNDP is the subject of a continuous planning process. However, the institutions and procedures for planning must themselves be appropriate if they are to be used in place of arbitrary or *ad hoc* procedures. They too, then, must be subject to amendment to take account of changes over time, and to the constant need to seek greater efficiency. Annual Reviews already referred to are meant to make planning more flexible and better suited to changing conditions. A danger to be avoided is the unnecessary proliferation of institutions without proper regard to the lack of effective manpower to staff them and the expenditure of public funds which might otherwise be used to do something of direct benefit to the people, as well as the tendency for such institutions to become ends in themselves.

44. Civil servants and other employees in the public sector, who are directly or indirectly involved in plan implementation, must attain a very thorough understanding of the policies and the strategies for development, particularly in regard to the sectors for which they are responsible.

45. A systematic effort will be required during the SNDP to enlist the energies, skills and local knowledge of executive departments, local authorities and individuals from the private sector. The discussion and co-operation which took place during plan formulation must therefore be followed by an intensive period of explanation of the elements of the Development Plan. People must understand and accept what it is proposed to do and why. This is particularly important if local leaders and people in the rural areas are to accept the constraints, e.g. the availability of funds, the relative shortage of staff and technical knowledge, etc., which have had to be accepted on a national level.

SUPPLEMENT

TO THE

SECOND NATIONAL DEVELOPMENT PLAN

1972—1976

PROGRAMMES AND PROJECTS

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INTRODUCTION

THE MAIN DOCUMENT of the Second National Development Plan sets forth the country's development strategy and objectives for the period 1972–76. It also indicates the policies and institutional reforms, as well as the investment levels required in each economic sector for the achievement of these objectives.

This Supplement to the SNDP contains information on the investment programmes and projects underlying that part of total investment which will be undertaken by Government and the para-statal organisations. These programmes and projects will constitute the basic material for the formulation of the annual segments of the SNDP.

In the short project descriptions presented here, the total estimated capital expenditure for each project, and the amount to be spent during 1972, are given. The latter constitutes a part of the Capital Budget for the current year already approved by Government. Phasing of the project expenditure over the remaining years of the Plan period is not attempted here. This phasing will be the primary objective of Annual Reviews which will naturally rely on the firm basis of the experience gained by past performance.

A first priority objective of the Government during the SNDP period is to speed up economic and social development in the rural areas and thus reduce the income gap between the rural and urban sectors of the economy. This is reflected in the rather detailed rural and provincial programmes which are included in this Supplement. The provincial programmes in particular, which are the responsibility of Provincial Administration, should be considered as a decisive step towards decentralised decision-making and regional planning. These programmes are also designed to pave the way for a more efficient regional implementation of the investment programme of the Central Ministries.

Because of gaps in information, it has not been possible to present the programmes for all sectors in a uniform way. In particular, estimates of the recurrent expenditure of the investment programmes have not been worked out systematically and therefore in most cases the cost figures relate only to capital cost of the projects, unless otherwise stated. Estimating adequately the recurrent developmental expenditure on the projects will be an important task in annual planning. Finally, it should be noted that the figures given here for capital investment on certain projects do not tally with the ones given in the 1972 capital budget estimates because the Supplement covers also that part of investment which will be financed through external loans.

The following table gives a summary of the investment programmes envisaged in the SNDP.

Summary of SNDP Programmes

(K thousand)

Ministry or Department	1972	1973–76	1972–76
1. Ministry of Rural Development	22,475	112,582	135,057
3. Ministry of Lands and Natural Resources	3,442	31,289	34,731
3. Ministry of Mines and Mining Development[1]	1,317	40,270	41,587
4. Ministry of Trade and Industry[2]	2,540	26,342	28,882
5. Ministry of Power, Transport and Works	149,400	423,700	573,700
6. Ministry of Information, Broadcasting and Tourism	2,692	19,108	21,800
7. Ministry of Education	18,518	71,763	90,281
8. Ministry of Health	7,355	22,994	30,349
9. Ministry of Provincial and Local Government and Culture	18,000	88,700	106,700
10. Ministry of Finance	635	1,950	2,585
11. Ministry of Labour and Social Services	80	1,417	1,497
12. Ministry of Home Affairs	350	3,030	3,380
13. Ministry of Development Planning and National Guidance	800	10,000	10,800
14. Ministry of Foreign Affairs	480	1,922	2,402
15. Ministry of Legal Affairs	—	1,700	1,700
16. Zambia Police	1,508	12,992	14,500
17. Personnel Division	25	2,975	3,000
18. State House	50	450	500
19. National Assembly	—	1,500	1,500
20. Audit Department		200	200
21. Provincial Programmes	12,243	68,660	80,903
Total	241,910	943,544	1,185,454

[1] Projects to be implemented by MINDECO are not included.
[2] Projects to be implemented by INDECO are not included.

CHAPTER I

MINISTRY OF RURAL DEVELOPMENT

The expenditure programme outlined below includes major outlays to improve existing services, such as marketing, extension, veterinary and tsetse control, and water supply, which will aid all producers, but particularly the smaller farmers, whose long-term development is a central feature of the SNDP. State production of basic commodities in which the country is in serious deficit and which will take long to develop through private production, accounts for a large part of the expenditure. Provision is made for increases in storage and processing capacity. Settlements, co-operatives and, particularly, Intensive Development Zones, require heavy capital expenditure. Of long-term significance is the expansion of research programmes and of training facilities for staff, farmers and co-operative members, while the performance of existing staff is to be improved with better supporting facilities. It should be noted that this Ministry's Capital Fund expenditure figures include also developmental recurrent expenditure on programmes and projects during the five-year period 1972–76. The programmes of the Ministry of Rural Development are summarised below:

Table I—Ministry of Rural Development: Investment Programmes, 1972–76
(K thousand)

	1972	1973–76	Total
Headquarters	1,537	24,433	25,971
Land Use Services	605	2,805	3,410
Marketing	71	411	482
Projects (Division)	2,563	6,209	8,772
Training	1,273	1,459	2,732
Agriculture—Extension and Training	1,426	12,231	13,657
Agriculture—Research	494	1,489	1,983
Community Development	100	696	796
Co-operatives	935	4,336	5,271
Rural Information Services	32	478	510
Veterinary and Tsetse Control Services	1,766	8,914	10,680
Water Affairs	2,429	10,603	13,032
Cold Storage Board	650	718	1,368
Dairy Produce Board	1,126	2,553	3,679
National Agricultural Marketing Board	1,424	8,576	10,000
Rural Development Corporation	1,986	10,015	12,001
Tobacco Board of Zambia	4,058	16,655	20,713
Total	22,475	112,582	135,057

A. DEPARTMENTAL PROGRAMMES

I. Headquarters

The Ministry's Headquarters control the votes for a few programmes which are implemented by more than one Department (or Board), where policy and disbursement of funds for implementation are managed by steering committees. It also has funds for planning purposes.

1. National Livestock Development Programme—National

This provides for the continued development of an integrated programme to increase output of beef and dairy produce, to establish permanent Zambian commercial producers and to expand output from Zambia's traditionally managed herd. The programme includes tenant dairies and ranches, collective ranches, the development of livestock enterprises on small-scale mixed farming schemes, and such other livestock development activities as may be approved.

Cost: K3,000,000 of which K360,000 in 1972 and K2,640,000 in the 1973–76 period. The programme will continue beyond the SNDP period.

2. Intensive Development Zones—National

Intensive Development Zones are to be established in areas of high development potential. Funds are provided for the planning of individual Zones, up to ten of which may be initiated during the SNDP, and for the cost of such implementation as falls within the rural sector. The cost per Zone is estimated in addition to capital expenditures already provided in the

selected areas under other programmes (education, health, etc.). In the SNDP, Government will provide K7,000,000 out of budgetary resources for IDZ programmes while allowance has been made for anticipated external contributions, both bi-lateral and multi-lateral, amounting to K10,500,000. A major portion of the initial work on identification and planning of possible IDZs will be undertaken at the start of the Plan period. For that purpose K300,000 will be spent in 1972 and expenditure will increase rapidly thereafter. The programme will continue beyond SNDP.

Cost: K8,000,000 of which K300,000 for 1972.

3. Mixed Farming Development—National

The project will, with IBRD assistance, provide for the intensification of land use on existing farms, and the resettlement of disused land, particularly along the line of rail and in other areas where satisfactory land tenure exists or can be arranged. It will settle 1,750 farmers on small- and medium-scale mixed farms, provide long- and medium-term development loans to both settlers and existing farmers, and also technical, credit and farm management advisory services and train Zambians in credit and farm management techniques.

		K
Cost:	SNDP—GRZ	4,879,000
	IBRD	9,557,000
		14,436,000
	1972—GRZ	822,000
	IBRD	—

Further funds will be made available as credit by the Agriculture Finance Company (AFC), Cattle Financing Company (CFC) and the commercial banks.

4. Agro-economic Research—National

The project provides the Ministry of Rural Development with a small counterpart contribution for practical research projects in the agro-economic field, in collaboration with the University of Zambia and overseas universities, which are themselves prepared to contribute substantially to such research programmes.

Cost: K35,000 of which K5,000 for 1972.

5. Development Consultancies

Funds will be provided for the payment of any local costs, such as accommodation, transport and secretarial services, for any development consultancies approved by Government for the rural sector, where the professional costs are usually met from external contributions.

Cost: K500,000 of which K50,000 for 1972.

II. Land Use Services

The Department is responsible for feasibility studies, surveys and the planning of agricultural projects and settlement schemes, and also, in many respects, for the implementation of these schemes.

1. Surveys and Planning—National

This is a service project, financing capital and operational costs of project planning and specialist studies.

		K
Cost:	SNDP—Capital	138,000
	Recurrent	100,000
	1972—Capital	65,000
	Recurrent	20,000

2. Planning Equipment—National

This provides funds for drawing office and surveying equipment and pays for aerial photography.

Cost: K125,000 of which K25,000 for 1972.

3. Farm Engineering Development—National

The programme includes experimental development work, purchase of specialist machinery and equipment, and the organisation of field trials and demonstrations.

Cost: K100,000 of which K15,000 for 1972.

4. General Land Settlement—National

This project covers feasibility study, land purchase and basic infrastructure, including bush clearing, roads and water supplies on contingency settlements.

Cost: K320,000 of which K50,000 for 1972.

5. Kafue Flats Development—Southern Province

The project provides planning facilities for the programme to replace grazing areas inundated by the Kafue Dam, together with the provision of essential infrastructure on new areas, including roads and water supplies.

		K
Cost:	SNDP	200,000
	1972	20,000

6. Chipembi Graduates Settlement—Central Province

The Ministry has an agreement with Chipembi Farm Training College to provide settlement facilities for their graduates. A nucleus settlement of seven farms is in operation at Kalola and annual extensions are planned.

		K
Cost:	SNDP—Capital	150,000
	Recurrent	50,000
	1972—Capital	20,000
	Recurrent	10,000

7. Ipafu Settlement—Chingola, Copperbelt

The settlement was started in 1968 to provide graduates of Kalulushi Farm College with irrigated family farms. Further land for settlement will be developed during the SNDP. The project is administered by the College.

		K
Cost:	SNDP—Capital	51,000
	Recurrent	107,000
	1972—Capital	11,000
	Recurrent	27,000

8. Gwembe Valley Development—Southern Province

The scheme aims at establishing about 300 hectares of irrigated agriculture for the people of the Gwembe Valley. Funds are administered by the Commissioner for Land Settlement and the project is managed by the Gossner Service Team.

		K
Cost:	SNDP—Capital	192,000
	Recurrent	148,000
	1972—Capital	72,000
	Recurrent	28,000

9. Lusitu Irrigation Scheme—Southern Province

Settlement has commenced with twenty farm families, each with approximately one hectare. During the SNDP it is proposed to increase the scheme to 100 families.

		K
Cost:	SNDP—Capital	32,000
	Recurrent	49,000
	1972—Capital	14,000
	Recurrent	5,000

10. NAKAMBALA IRRIGATION SETTLEMENT—MAZABUKA, SOUTHERN PROVINCE

The project proposes to establish an outgrower scheme to introduce Zambian farmers to the production of sugar cane. It is planned to start a pilot scheme in 1975 when the Nakambala Estate has completed its current expansion.

Cost: SNDP K120,000 in the 1973–76 period.

11. CHIZERA DEVELOPMENT—NORTH-WESTERN PROVINCE

The project provides for the operating costs of OXFAM volunteers who work with the village people in the Chizera area to help them form settlements and develop food crops. The funds are administered by the Commissioner for Land Settlement.

Recurrent expenditure: K60,000 in 1972–76, of which K20,000 in 1972.

12. SOUTH-EAST KASEMPA DEVELOPMENT—NORTH-WESTERN PROVINCE

The project provides for the participation of farmers in two nucleus development zones at Nkenyauna and Mpungu, on the basis of permanent commercial agriculture.

Cost: K50,000 of which K10,000 in 1972.

13. RURAL SETTLEMENT TRAINING—KASEMPA, NORTH-WESTERN PROVINCE

The project provides the operating costs of S.N.V. (Netherlands) volunteers helping to train villagers in better husbandry methods. Funds are administered by the Commissioner for Land Settlement.

		K
Cost:	SNDP—Capital	8,000
	Recurrent	50,000
	1972—Capital	8,000
	Recurrent	10,000

14. FAMILY SETTLEMENTS—SOUTHERN PROVINCE

The scheme, started in 1964 with Ngwezi Settlement, establishes local farmers on permanent, small, mixed farms, subdividing under-utilised or abandoned commercial farms. Initial emphasis is on State land, but settlement will extend to Reserve land as this proves practicable. Assistance is expected from the African Development Bank and the project will integrate with the IBRD-assisted Mixed Farming Development project (*see* Scheme No. 3 under Headquarters above).

Cost: K400,000 of which K80,000 in 1972.

15. FAMILY SETTLEMENTS—EAST LUSAKA, CENTRAL PROVINCE

Settlements similar to Ngwezi in Southern Province will be established on State land farms to the east of Lusaka which are not being fully utilised. The project provides for the purchase of land and existing facilities, and more intensive development of settlement units. The project is planned to start in 1973.

Cost: K360,000 (1973–76).

16. FAMILY SETTLEMENTS—EASTERN PROVINCE

Settlements similar to Ngwezi in Southern Province will be established in Eastern Province. The project will integrate with the IBRD-assisted Mixed Farming Development project and the planning of Intensive Development Zones.

Cost: K100,000, of which K20,000 in 1972.

17. WESTERN PROVINCE DEVELOPMENT

A task-force has been set up to identify and initiate development projects in the Western Province. Funds provide for the continued establishment and running cost of the task-force itself and for the initiation of development projects.

		K
Cost:	SNDP—Capital	320,000
	Recurrent	180,000
	1972—Capital	39,000
	Recurrent	36,000

III. Marketing

The Division's function is one of marketing supervision and advice, as well as the provision of market intelligence. The service is being extended to district level and, during the SNDP, its market intelligence function will be increasingly emphasised.

1. Trial Marketing Scheme—National

Provision is made for pilot marketing schemes, which will be operated on a commercial basis for a limited period and, if successful, handed over to a marketing co-operative, or to a para-statal or commercial marketing agency.

Cost: K58,000, of which K10,000 in 1972.

2. Aerial Surveys—Southern and Central Provinces

It is intended to improve crop forecasting by means of an aerial survey of the main line of rail maize producing areas. This will provide the basis for annual ground surveys, and provision is made for a further up-dating aerial survey in 1976.

Cost: K85,000 (1973–76).

3. Poultry and Egg Marketing—National

Provision is made for small-scale marketing exercises, where required, with the aim of demonstrating the viability of local marketing which could subsequently be undertaken by local poultry and egg marketing co-operatives.

Cost: K9,000 (1973–76).

4. Staff Housing—National

With the increase in the Division's functions to enable it to provide services in every productive District, staff houses are required in those areas not already catered for. Some provision for this is also made in Provincial votes.

	K
Cost: SNDP:	197,000
1972:	44,000

5. Vehicles—National

To enable existing and new staff to give adequate service throughout their local areas, the availability of transport will be improved with the purchase of Land-Rovers.

	K
Cost: SNDP:	133,000
1972:	17,000

IV. Projects Division

The Division is responsible for the initiation and supervision of the Ministry's direct production and management schemes. Such schemes are mainly pilot projects which, on attaining commercial viability, would be transferred to subsidiary companies of the Rural Development Corporation. Many of the projects are not expected to become commercial operations, but are designed to introduce and test new crops and methods in Zambia. The Projects Division will become a subsidiary company of the Rural Development Corporation at the beginning of the SNDP period. Allowance for reinvestment of revenue has been made in the following estimates.

1. Projects Headquarters—Lusaka

The vote provides for payment of all Headquarters staff salaries and allowances, office expenses, transport and contingencies. No expansion is envisaged as existing staff are adequate for schemes already started. If further schemes are to be started additional provision will be required.

Proposed expenditure: Recurrent cost K1,690,000 in the 1972–76 period of which K330,000 in 1972.

2. Mangango Production Scheme—Kaoma, Western Province

Started in 1969, the scheme produces mainly maize for consumption in the Province. The scheme will reach full development of some 600 hectares under cultivation by 1973, and no subsequent expansion is planned. Maize output is expected to reach 1,070 tons per annum.

		K
Cost:	SNDP—Capital	50,000
	Recurrent	173,000
	1972—Capital	24,000
	Recurrent	93,000

3. Mpungu Production Scheme—Kasempa, North-Western Province

The scheme was started in 1969 with both direct production and settlement programmes, producing maize and other cash crops for the local market. After the 1972 season, the direct production area will be given over to further settlement. A tractor hire unit will be established to serve the settlers and other local farmers.

		K
Cost:	SNDP—Capital	57,000
	Recurrent	83,000
	1972—Capital	10,000
	Recurrent	22,000

4. Sinamalima Irrigation Scheme—Sinazongwe, Southern Province

The scheme will produce vegetables and fruit under irrigation and carry out research into suitable crops in that area. At a later stage, irrigation facilities will be extended to smallholders, if current development proves successful.

		K
Cost:	SNDP—Capital	455,000
	Recurrent	328,000
	1972—Capital	25,000
	Recurrent	38,000

5. Li-Empi Production Scheme—Chalimbana, Central Province

The scheme is a State farm of 600 hectares producing crops as required for sale, for seed or on a trial basis. Sheep and goats are raised for distribution throughout the country. Maize output is expected to be about 400 tons per annum, annual sales of sheep and goats to reach 1,000 heads and 50 heads, respectively.

		K
Cost:	SNDP—Capital	16,000
	Recurrent	75,000
	1972—Capital	16,000
	Recurrent	50,000

6. Mununshi Banana Scheme—Mwense, Luapula Province

The scheme, started in 1966, produces bananas for the Copperbelt market and encourages local production by providing packing and grading facilities. A further area will be developed during the SNDP for irrigated production by outgrowers totalling 250 hectares, producing 4,000 tons of bananas per annum. Pineapples and citrus will be introduced later.

		K
Cost:	SNDP—Capital	462,000
	Recurrent	60,000
	1972—Capital	62,000
	Recurrent	60,000

Chapula Irrigation Training and Production Scheme—Kalulushi, Copperbelt

This scheme trains farmers, settlers and departmental staff in the production of vegetables nder irrigation, and also in the marketing of the produce. Training experts are provided by .A.O.

			K
Cost:	SNDP—Capital	.. ..	144,000
	Recurrent	.. ..	486,000
	1972—Capital	.. ..	34,000
	Recurrent	.. ..	126,000

Chiawa Banana Scheme—Chirundu, Central Province

The scheme, set up in 1969, produces bananas for the Lusaka market. Expansion is lanned during the SNDP, possibly for outgrower production nearby. The total area may reach 50 hectares, producing 5,500 tons of bananas per annum.

			K
Cost:	SNDP—Capital	.. ..	95,000
	Recurrent	.. ..	22,000
	1972—Capital	.. ..	20,000
	Recurrent	.. ..	22,000

Mwinilunga Vegetable Scheme—Mwinilunga, North-Western Province

The scheme produces vegetables for the local canning factory. While the factory processes cal pineapples between October and April, the scheme is designed to raise produce, mainly omatoes, for the rest of the year. No major expansion is envisaged from the present area of venty-five hectares.

			K
Cost:	SNDP—Capital	.. ..	11,000
	Recurrent	.. ..	98,000
	1972—Capital	.. ..	11,000
	Recurrent	.. ..	21,000

Kawambwa Tea Scheme—Kawambwa, Luapula Province

The plantation, established in 1969 to provide for internal demand for tea, will cover 40 hectares by 1976, with outgrower production to be developed later. A tea processing factory ill be installed by 1974, when the first commercial crop is anticipated.

			K
Cost:	SNDP—Capital	.. ..	505,000
	Recurrent	.. ..	613,000
	1972—Capital	.. ..	60,000
	Recurrent	.. ..	108,000

Golden Valley Farm—Chisamba, Central Province

The project is a general mixed farm for the production of crops on a field scale under bservation, including wheat, barley, soya beans and other crops. The production of kenaf will ntinue at its present level. A herd of some 800 head of ranching stock is also maintained.

			K
Cost:	SNDP—Capital	.. ..	11,000
	Recurrent	.. ..	260,000
	1972—Capital	.. ..	11,000
	Recurrent	.. ..	62,000

12. Ngoli Coffee Scheme—Kasama, Northern Province

The scheme will produce arabica coffee for domestic consumption and possible export, on a direct production and outgrower basis. Initially eighty hectares of coffee will be planted, to be subdivided among 100 settlers families. No expansion is envisaged during the SNDP.

		K
Proposed expenditure:	SNDP—Capital	67,000
	Recurrent	210,000
	1972—Capital	37,000
	Recurrent	50,000

13. Tractor Hire Service—National

The Division operates a hire service for tractors and machinery in all Provinces. The service, with 200 tractors at the start of the SNDP, is not planned to expand, but emphasis will be given to improving efficiency, in particular, maintenance.

		K
Proposed expenditure:	SNDP—Capital	420,000
	Recurrent	2,350,000
	1972—Capital	200,000
	Recurrent	100,000

Note—Provision for recurrent expenditures is made in the Government's Recurrent Budget.

14. Cotton Picking Service

The service owns three cotton picking units, complete with balers, which are available for hire in areas where large-scale commercial cotton production is undertaken.

		K
Cost:	SNDP—Capital	2,000
	Recurrent	27,000
	1972—Capital	2,000
	Recurrent	5,000

15. Chombwa Family Farm Scheme—Mumbwa, Central Province

The scheme is to be completed in 1972 with the provision of a mechanisation unit, available for hire locally as well as on the scheme.

		K
Cost:	SNDP—Capital	20,000
	Recurrent	12,000
	1972—Capital	20,000
	Recurrent	12,000

Rural Dairies

Commercial dairies have been established at rural centres to produce milk for local consumption. Commercial development will be completed early in the SNDP period, but further development will enable the dairies to become centres for extension and for the distribution of stock. Training in dairy husbandry and management will also be given. Expenditure will be as follows:

16. Chipata Rural Dairy—Chipata, Eastern Province

		K
Cost:	SNDP—Capital	55,000
	Recurrent	97,000
	1972—Capital	25,000
	Recurrent	62,000

17. KASAMA RURAL DAIRY—KASAMA, NORTHERN PROVINCE

		K
Cost:	SNDP—Capital	63,000
	Recurrent	134,000
	1972—Capital	33,000
	Recurrent	56,000

18. MANSA RURAL DAIRY—MANSA, LUAPULA PROVINCE

		K
Cost:	SNDP—Capital	54,000
	Recurrent	101,000
	1972—Capital	24,000
	Recurrent	66,000

19. MONGU RURAL DAIRY—MONGU, WESTERN PROVINCE

		K
Cost:	SNDP—Capital	49,000
	Recurrent	83,000
	1972—Capital	19,000
	Recurrent	53,000

20. SOLWEZI RURAL DAIRY—SOLWEZI, NORTH-WESTERN PROVINCE

		K
Cost:	SNDP—Capital	57,000
	Recurrent	145,000
	1972—Capital	27,000
	Recurrent	55,000

21. KAFUBU DAIRY—NDOLA, COPPERBELT

This State dairy was established to produce milk in large quantities for the Copperbelt market. Phase II of the project will be implemented during the SNDP, expanding milk output and establishing a national stud breeding herd for dairy cattle to distribute improved stock for the general development of the dairy industry.

		K
Cost:	SNDP—Capital	110,000
	Recurrent	313,000
	1972—Capital	40,000
	Recurrent	153,000

Ranches

Ranches have been established, both as State enterprises with the simple objective of raising beef, and also as collective ranches to provide management to farmers from the traditional sector who keep some of their stock on the ranch. Emphasis in the SNDP will be given to increasing output and training staff and local farmers in improved ranch management techniques.

22. SENANGA RANCH—SENANGA, WESTERN PROVINCE

A State ranch, serving also as a quarantine station during the epizootic of bovine pleuropneumonia in the Province.

		K
Cost:	SNDP—Capital	69,000
	Recurrent	191,000
	1972—Capital	39,000
	Recurrent	47,000

23. MBESUMA RANCH—CHINSALI, NORTHERN PROVINCE

A State ranch providing local requirements.

		K
Cost: SNDP—Capital	.. ..	23,000
Recurrent	.. ..	190,000
1972—Capital	.. ..	13,000
Recurrent	.. ..	70,000

24. BATOKA RANCH—CHOMA, SOUTHERN PROVINCE

A collective ranch, although temporary excess capacity is utilised for state cattle.

		K
Cost: SNDP—Capital	.. ..	23,000
Recurrent	.. ..	150,000
1972—Capital	.. ..	8,000
Recurrent	.. ..	60,000

25. IRUMI RANCH—MKUSHI, CENTRAL PROVINCE

A collective ranch.

		K
Cost: SNDP—Capital	.. ..	90,000
Recurrent	.. ..	182,000
1972—Capital	.. ..	25,000
Recurrent	.. ..	52,000

26. KAYUNI RANCH—MONZE, SOUTHERN PROVINCE

A collective ranch.

		K
Cost: SNDP—Capital	.. ..	46,000
Recurrent	.. ..	72,000
1972—Capital	.. ..	16,000
Recurrent	.. ..	57,000

27. NALUAMA RANCH—MAZABUKA, SOUTHERN PROVINCE

A collective ranch.

		K
Cost: SNDP—Capital	.. ..	24,000
Recurrent	.. ..	68,000
1972—Capital	.. ..	14,000
Recurrent	.. ..	18,000

NOTE—Table 2 below contains estimates of annual production of Dairies and Ranches.

Table 2—Estimated Annual Production of Dairies and Ranches in 1976

	Stock	Milk (thousand gallons)	Beef Output Tons DCW	Surplus Breeding Stock
Dairies:				
Kafubu	—	380	40	170
Chipata	39	80	12	35
Kasama	250	65	9	28
Mansa	450	65	20	48
Mongu	120	36	—	—
Solwezi	250	65	9	28
Ranches:				
Batoka	3,500	—	125	280
Kayuni/Muyobe ..	4,000	—	140	350
Naluama	1,200	—	42	100
Irumi (Mkushi) ..	3,000	—	100	250
Mbesuma	3,000	—	110	260
Senanga	3,500	—	125	280

V. Training

The Training Section is responsible for the supervision of the Ministry's staff training colleges, the Natural Resources Development College, and the Zambia College of Agriculture at Monze. While existing institutions are in the course of being expanded, a new training college is to be built at Mpika.

1. Natural Resources Development College—Lusaka

The SNDP target for the Natural Resources Development College aims at an eventual size of 450 student places. Additional classrooms, hostels and equipment will be provided to accommodate the extra students. Expenditure, largely on buildings, is concentrated into the first two years of the Plan period.

Cost: K789,000, of which K554,000 in 1972.

2. Zambia College of Agriculture—Monze, Southern Province

The capacity of the college, which provides two-year certificate courses in Agriculture, Animal Husbandry and Veterinary Science, is being expanded from 200 student places to 350 by 1973. Additional facilities are being provided for the tuition of veterinary and tsetse control officers, following the transfer of the Veterinary College from Mazabuka.

Cost: K443,000 of which K319,000 in 1972.

3. Zambia College of Agriculture—Mpika, Northern Province

A new agricultural training institution is to be built at Mpika to cater for the increasing staff requirements of the Ministry of Rural Development and other bodies requiring trained agriculturalists. The new college, providing training in a new ecological zone, will offer diploma and certificate courses for 350 students. External financial support is likely.

Cost: K1,500,000, of which K400,000 in 1972.

VI. Agriculture—Extension and Training

The Agricultural Extension Service is, at the beginning of the SNDP, extremely short-staffed, and a primary objective of the Plan is to increase staff numbers and also the effectiveness of existing staff. Training facilities are being expanded (*see* Training above), in-service training is to be intensified and major provision is made for housing and transport, shortage of which was the Department's greatest impediment in the First Plan.

1. Summer Grazing Scheme—Western Province

The scheme provides large paddocks in grazing areas away from the Zambezi Flood Plain to encourage cattle owners to move their animals away from the plain fringes in the summer months, when there is frequent over-grazing and deterioration in condition of breeding stock and high calf mortality. Supplementary feeds and veterinary requisites are also provided. These paddocks will eventually be taken over by local Grazier Associations.

Cost: K135,000 in 1972–76, of which K15,000 in 1972.

2. Training for Ox-assisted Cultivation—National

To meet the increasing demand for draught oxen from both individual farmers and those on supervised schemes, training programmes are organised in all Provinces (except Central, Eastern and Southern, where the use of oxen is already widespread) in the breaking-in and use of work oxen and ox-drawn equipment. The programme will be considerably increased during the SNDP in accordance with the high priority to be given to the use of low-cost inputs.

Cost: K175,000, of which K25,000 in 1972.

3. Rural Cattle Saleyards—National

The project provides for the repair and maintenance of existing saleyards, which have also to be metricated, and for the establishment of fourteen new ones.

Cost: K177,000, of which K51,000 in 1972.

4. Staff Housing—National

Shortage of housing in rural areas has proved a major impediment to the implementation of an agricultural extension programme, and a major effort will be made in the SNDP to provide housing for existing extension staff and to cater for a proposed increase. About 1,000 new houses will be built in all.

Cost: K8,462,000, of which K600,000 in 1972.

5. Vehicles—National

To provide for the essential mobility of agricultural extension staff in the field, additional motor vehicles, including motor cycles, will be acquired during the SNDP.

Cost: K1,038,000, of which K100,000 in 1972

6. Palabana Agricultural Training Centre—Chalimbana, Central Province

The Centre will be developed to cater for a wide range of courses, including dairy farming, beef production and mechanisation for more progressive farmers, and to provide courses for both Government and non-Government trainees. Principal expenditure will be on student and staff accommodation.

Cost: K497,000, of which K92,000 in 1972

7. Poultry Development—National

The project provides for the continued expansion of the poultry distribution scheme with special emphasis in the rural areas at village and subsistence level. Hatcheries will be erected in Provinces off the line of rail to provide efficient chick availability to poultry farmers.

Cost: K310,000, of which K50,000 in 1972.

8. Development and Improvement of Small-stock—National

Small breeding-stock units of sheep, pigs, goats and rabbits will be maintained in all Provinces to provide genetic improvement by distributing improved stock to farmers.

Cost: K80,000, of which K10,000 in 1972.

9. Integrated Pig Management—Southern, Central and Copperbelt Provinces

The schemes organise small farmers to be more efficient in their pig management techniques and to market the finished product. Facilities arranged include credit, building subsidies, a livestock advisory service, and transport. Within three or four years the cost of these services will be borne by the farmers themselves. Six schemes are planned to be in operation by the end of SNDP period, with varying numbers of participants.

		K
Cost: SNDP—Capital	.. ..	343,000
Recurrent	.. ..	503,000
1972—Capital	.. ..	62,000
Recurrent	.. ..	34,000

10. Keembe Pig Multiplication Unit—Keembe, Central Province

The unit, due to be established in 1972, will provide improved livestock for commercial farmers. Cross-bred stock, more suitable for the market, will be provided from several nucleus herds, one for each breed. Direct revenue will accrue from sales of stock.

		K
Cost: SNDP—Capital	.. ..	57,000
Recurrent	.. ..	244,000
1972—Capital	.. ..	19,000
Recurrent	.. ..	40,000

11. Dairy Stud Breeding Herd—Kafubu, Copperbelt

The herd has been established to produce quality breeding stock for both the commercial sector and para-statal dairy units, removing a major constraint in the dairy industry. During the SNDP it is planned to increase the number of blood lines.

Cost: K50,000, of which K10,000 in 1972.

12. National Sheep and Goat Scheme—National

The scheme allows for the provision of a subsidy to farmers in the form of corrugated iron for the construction of an approved type of shelter for sheep and goats, together with the supply of necessary dips and drugs. In addition, small stud flocks are maintained to provide improved breeding stock for distribution.

Cost: K91,000, of which K15,000 in 1972.

13. Rural Milk Production Scheme—National

Selected farmers in rural areas situated in proximity to adequate markets are assisted to establish themselves in small-scale commercial milk production. They are provided with building materials and basic equipment, finance for which is contributed by the World Food Programme. It is proposed to establish about fifty units per year.

Cost: K605,000, of which K122,000 in 1972.

14. Food Storage and Preservation—National

The project provides courses for farmers and extension staff in improved methods of food storage. The programme, started in 1971, is to be expanded during the SNDP. It will give instruction in the construction and use of simple storage facilities and in the use of pesticides. A mobile unit will be manned by the Home Economics Section to demonstrate to rural women how perishable foods such as fruit and vegetables may be preserved by bottling, drying, etc.

Cost: K49,000, of which K13,000 in 1972
The project is partly financed by the Freedom From Hunger Campaign.

15. Rice Development—Luapula Province

The project provides for an intensive extension programme in rice cultivation in the Luapula Valley, where it is planned to develop up to 2,000 hectares of rice on small-scale holdings by 1976. Principal capital expenditure will be on housing, vehicles and farming equipment.

		K
Cost: SNDP—Capital	.. ..	225,000
Recurrent	.. ..	300,000
1972—Capital	.. ..	95,000
Recurrent	.. ..	41,000

16. Fruit Nurseries—National

Nurseries will be established in every Province to provide planting material to local farmers, both to improve nutrition and to promote commercial production. Initial emphasis will be on citrus, although other fruit, such as paw-paw, mango, guava, banana and pineapple, will also be propagated. In the case of tree-crops, which are slow-growing, production will not be substantially increased during the SNDP. Production of citrus trees for sale should reach 100,000 by 1976.

		K
Cost: SNDP—Capital	.. ..	75,000
Recurrent	.. ..	241,000
1972—Capital	.. ..	32,000

VII. Agriculture—Research

The Research Branch of the Department of Agriculture includes a Central Research Station at Mount Makulu near Lusaka, nine Regional Research Stations, two specialist stations concerned with irrigation research and animal husbandry research, and farm machinery research and testing facilities at the Magoye Regional Research Station. Capital expenditure during the SNDP is aimed at consolidating existing stations and establishing facilities for further specialised types of research.

1. Mount Makulu Research Station—Chilanga, Central Province

The development of the Central Research Station at Mount Makulu is to be completed during the SNDP. This principally involves investment in further housing for research staff and permanent labour, ancillary buildings, transport and research equipment.

Cost: K500,000, of which K170,000 in 1972.

2. Kafue Irrigation Research Station—Nega Nega, Southern Province

The Research Station is being developed as the centre for irrigation research in Zambia, with technical assistance from FAO and West Germany. Principal local activities will include a detailed investigation of the irrigation potential of the Kafue Basin, concentrating on crops such as kenaf, citrus and vegetables for processing.

Cost: K400,000, of which K154,000 in 1972.

3. Phyto-sanitary Services—National

The project caters for the inspection service of plant material entering Zambia, to prevent the import of plant diseases. Main investment is in a plant quarantine station near Lusaka, where all new material will be grown and tested in isolation in phyto-sanitary greenhouses. In addition, staff housing will be provided at border-posts for the inspection service.

Cost: K196,000, of which K20,000 in 1972.

4. Farm Machinery Research Unit—Magoye, Southern Province

The unit is being established for the testing of imported machinery and tools, for the design and prototype construction of machines and tools for local manufacture and for research into mechanisation needs and mechanised cultivation practices.

Cost: K137,000, of which K50,000 in 1972.

5. Pig and Poultry Research Unit—Keembe, Central Province

The research unit will be established in conjunction with the Keembe Integrated Pig Management Scheme, to investigate improved pig and poultry husbandry methods, with particular reference to the development of improved rations using local materials. The project is due to start in 1973.

Cost: K250,000 in the 1973–76 period.

6. Dairy Research Unit—Copperbelt

The project will establish a unit to undertake research into all aspects of dairy production and management under high rainfall conditions, including pasture research. The project is due to start in 1973.

Cost: K200,000 in the 1973–76 period.

7. Animal Breeding Research—Southern Province

The animal husbandry research centre is being moved to a new site in the Southern Province, so that its land can be made available for the expansion of Nakambala Sugar Estate. Costs of replacement facilities are to be met from compensation payments from INDECO for the assets taken over.

Cost: K300,000, of which K100,000 in 1972.

VIII. Community Development

1. Community Development Headquarters—Lusaka

The provision covers expenses on advisory staff seconded to the Department.

Cost: K10,000, of which K2,000 in 1972.

2. Adult Literacy Programme—National

The programme provides for all field activities and adult literacy training. Funds are provided for publications, equipment, staff training and honoraria for staff.

Cost: K585,000 of which K98,000 in 1972.

3. Social Work Training Centres

Three centres, at Monze, Kitwe and Kabwe, will in future each provide integrated generic training in all community development functions, including literacy, home economics, social welfare and youth work, in both rural and urban situations. In order to cater for the manpower expansion projected in the Plan, accommodation and facilities will have to be increased and improved at all centres.

Kabwe requires additional student and staff accommodation and better study facilities; Monze needs a library block and store, and Kitwe needs extensions to the administrative block, a store and fencing.

		K
Total expenditure:	SNDP	201,000
	1972	—

IX. Co-operatives

The Department provides services to Co-operative Societies and Unions and also regulates them.

1. Departmental Accommodation—National

Offices and houses for staff of the Department will be constructed in areas not served by general accommodation, in accordance with Government housing policy.

Cost: K304,000, of which K50,000 in 1972.

2. FAO SIDA Luapula Project—Luapula Province

The project is a farm management advisory and training scheme, with technical and managerial staff from FAO and SIDA, who will train Zambian staff to succeed them. The scheme aims to establish local farmers as permanent commercial producers, with co-operative services and marketing facilities.

		K
Cost:	SNDP—Capital	295,000
	Recurrent	365,000
	1972—Capital	175,000

3. Federation of Building Co-operatives—National

Government provides staff to manage the Federation and to train Zambians in management, accounting, estimating and the supervision of building projects.

		K
Cost:	SNDP—Capital	62,000
	Recurrent	1,131,000
	1972—Recurrent	200,000

4. Luanshya Training College—Luanshya, Copperbelt

The training college, housed in rented quarters, will be replaced during the SNDP (*see* the ILO/Zambia Co-operative Training project below). Meanwhile, some small investment is required in equipment and training materials.

Cost: SNDP K51,000, of which K8,000 in 1972.

5. Katete Training College—Katete, Eastern Province

The college will be completed at a level of about thirty student places during the first two years of the SNDP, with final investment in staff and student accommodation, transport and training materials.

Cost: K64,000, of which K31,000 will be spent in 1972.

6. Co-operative Training

The project provides for the construction of houses for co-operative training staff at strategic points throughout the country, together with the addition of facilities for co-operative training at existing agricultural or community development training centres.

Cost: K174,000, of which K30,000, will be spent in 1972.

7. Caravans and Terrapins—National

Caravans and temporary houses are provided for staff at co-operative agricultural settlements. They can easily be moved to new sites when staff are no longer needed or when permanent accommodation becomes available.

Cost: K32,000, in the 1973–76 period.

8. ILO/Zambia Co-operative Training

It is intended to establish a Co-operative Training Centre to teach society and committee members general co-operative principles, practice and law, with assistance from the International Labour Organisation. Project planning will be done in 1972, in co-operation with the ILO team.

		K
Cost:	SNDP—Capital	315,000
	Recurrent	85,000
	1972—Recurrent	10,000

9. Farm Management Training—National

The programme provides housing and schools for resident farm managers and mechanics on Co-operative agricultural settlements in an effort to make them commercially viable. The scheme will promote both the production of marketable surpluses in rural areas and a home-produced improvement in diet.

		K
Cost:	SNDP—Capital	173,000
	Recurrent	547,000
	1972—Recurrent	110,000

10. Co-operative Marketing Associations—National

The project supplies auditors and accountants to five marketing unions, providing accommodation and salaries.

		K
Cost:	SNDP—Capital	39,000
	Recurrent	117,000
	1972—Recurrent	20,000

11. Credit Unions—National

Arrangements will be made to second management and accounting staff to the Credit Union and Savings Association of Zambia Ltd, in an effort to promote the formation and viability of credit unions.

Co-operative Farming Settlements

Nine existing co-operative farming settlements are to receive continued development and managerial assistance during the SNDP, although every effort will be made to develop them to the stage where such assistance is no longer required or can be paid for by the society itself. Expenditure proposals are as follows:

12. Kafubu Settlement—Luanshya, Copperbelt

		K
Cost:	SNDP—Capital	321,000
	Recurrent	140,000
	1972—Capital	72,000
	Recurrent	28,000

13. Kakwalesa Settlement—Mkushi, Central Province

		K
Cost:	SNDP—Capital	52,000
	Recurrent	20,000
	1972—Capital	21,000
	Recurrent	4,000

14. Kafulafuta Settlement—Luanshya, Copperbelt

		K
Cost:	SNDP—Capital	366,000
	Recurrent	161,000
	1972—Capital	61,000
	Recurrent	39,000

15. Manyinga Settlement—Kabompo, North-Western Province

		K
Cost:	SNDP—Capital	43,000
	Recurrent	30,000
	1972—Capital	12,000
	Recurrent	8,000

16. Mulimba Settlement—Lusaka, Central Province

		K
Cost:	SNDP—Capital	7,000
	Recurrent	10,000
	1972—Capital	3,000
	Recurrent	2,000

17. Kabuyu Settlement—Kalomo, Southern Province

		K
Cost:	SNDP—Capital	25,000
	Recurrent	15,000
	1972—Capital	15,000
	Recurrent	3,000

18. Mufubushi Settlement—Mpika, Northern Province

		K
Cost:	SNDP—Capital	149,000
	Recurrent	88,000
	1972—Capital	14,000
	Recurrent	16,000

19. Chitina Settlement—Mkushi, Central Province

Cost: SNDP—Capital K6,000, of which K3,000 in 1972.

20. Lusaka West Settlement—Lusaka, Central Province

Cost: K84,000 in the 1973–76 period.

X. Rural Information Services

The Division is responsible for supporting the work of executive Departments of the Ministry and its para-statals, by disseminating information about services provided and about farming methods, as well as in playing a part in the adult literacy programme. The Division includes sections dealing with publications, radio and exhibitions.

1. Agricultural Extension and Literacy Broadcasting—National

Increased emphasis will be given during the SNDP to using the potential of radio for extension advice. Provision is made for purchase of radio sets and establishing listening shelters, for improving programme preparation facilities and for equipping the new cadre of District Rural Information Officers.

Cost: K202,000, of which K7,000 in 1972.

2. Agricultural Show Societies—Central and Copperbelt Provinces

Funds are provided for improvement and maintenance of facilities for the annual Lusaka and Kitwe Shows and Ndola Trade Fair.

Cost: K75,000, of which K10,000 in 1972.

3. Staff Housing—National

Housing will be provided, in those Districts where not already available, for District Rural Information Officers.

Cost: K150,000, of which K15,000 in 1972.

4. Vehicles—National

Land-Rovers will be acquired for Provincial and District Rural Information Officers and for Headquarters.

Cost: K83,000 in the 1973–76 period.

XI. Veterinary and Tsetse Control Services

1. Central Veterinary Research Station—Chilanga, Central Province

To permit the expansion of Nakambala Sugar Estate on land occupied by the present Central Veterinary Research Station, a new site is to be developed near Mount Makulu. A contribution of K854,000 is being made by INDECO towards the total cost of the new station on behalf of the Zambia Sugar Company, in compensation for assets taken over. The new station will be in operation by 1974, although development will continue thereafter, as the phased transfer from Mazabuka continues.

Cost: K1,346,000, of which K200,000 in 1972.

2. Veterinary Research Station—Mazabuka, Southern Province

Provision is made for acquisition of certain movable equipment for the existing Central Veterinary Research Station during the period 1972–74.

Cost: K80,000, of which K20,000 in 1972.

3. Insecticide Unit—National

The Unit will carry out some 80,000 hectares of ground spraying each year to control and eradicate tsetse fly, and will consolidate and extend existing holding lines. About 260,000 hectares of aerial spraying will also be done annually under contract by Rural Air Services.

Cost: K2,837,000, of which K625,000 in 1972.

Provincial Animal Health and Tsetse Control Services

In each Province provision will be made, partly in the National and partly in the Provincial budgets, for veterinary and tsetse control operations. The programmes of the Veterinary section will include the construction of permanent crush pens, dips and wet smearing shelters, where appropriate, for disease control, and the improvement of its facilities in the Provinces

by the construction of offices, stores and staff houses and the acquisition of vehicles. The Tsetse section will carry out ground and aerial spraying, bush clearing and the erection of fences, and will also require offices, houses and vehicles. Proposed expenditure is as follows:

4. CENTRAL PROVINCE

Cost: K584,000, of which K117,000 in 1972.

5. COPPERBELT

Cost: K208,000, of which K32,000 in 1972.

6. EASTERN PROVINCE

Cost: K1,007,000, of which K158,000 in 1972.

7. LUAPULA PROVINCE

Cost: K220,000, of which K59,000 in 1972.

8. NORTHERN PROVINCE

Cost: K397,000, of which K83,000 in 1972.

9. NORTH-WESTERN PROVINCE

Cost: K257,000, of which K56,000 in 1972.

10. SOUTHERN PROVINCE

Cost: K803,000, of which K157,000 in 1972.

11. WESTERN PROVINCE

Cost: K636,000, of which K80,000 in 1972.

12. DIP TANKS AND SPRAY RACES IN RURAL AREAS—NATIONAL

The project provides for the construction of dip tanks and spray races in Southern, Western, Northern and Eastern Provinces, to meet the wishes of the people and to continue the fight against East Coast Fever along the borders.

		K
Cost:	SNDP—Capital	242,000
	Recurrent	112,000
	1972—Capital	10,000

13. REGIONAL VETERINARY DIAGNOSTIC LABORATORIES—NATIONAL

The project is designed to provide diagnostic facilities throughout the country with the establishment of regional laboratories, able to speed up the provision of diagnostic results in the areas they serve.

		K
Cost:	SNDP—Capital	116,000
	Recurrent	90,000
	1972—Capital	30,000

14. ARTIFICIAL INSEMINATION, PHASE II—NATIONAL

As a follow-up to the project in the FNDP which established the Artificial Insemination service, regional centres will be set up to broaden the base of this service. A small centre at the new Central Research Station will collect and distribute the semen of indigenous bulls.

		K
Cost:	SNDP—Capital	53,000
	Recurrent	58,000
	1972—Capital only ..	20,000

15. Development of Quarantine Stations—National

The main quarantine stations at Lusaka International Airport, Mazabuka and Kazangula will be further developed and small stations will be set up in the Northern, Eastern, Western and North-Western Provinces.

			K
Cost:	SNDP—Capital	.. ..	171,000
	Recurrent	.. ..	108,000
	1972—Capital only	..	40,000

16. Infertility Investigation—National

To improve the future off-take from the traditionally-owned herds, investigation will be carried out into problems affecting the low calving rate and the level of calf mortality.

Cost:	Capital	1973–76	K31,000
	Recurrent	1973–76	K13,000

17. Rabies Control Units—Lusaka and Ndola

Two mobile rabies control units will be established, based at Lusaka and Ndola, and available for service anywhere in Zambia.

			K
Cost:	SNDP—Capital	.. ..	27,000
	Recurrent	.. ..	78,000
	1972—Capital	.. ..	10,000
	Recurrent	.. ..	5,000

18. Tuberculosis Control—National

The project is designed for the investigation, control and eradication of tuberculosis in both the commercial and the traditional herds.

			K
Cost:	SNDP—Capital	.. ..	30,000
	Recurrent	.. ..	45,000
	1972—Capital only	..	8,000

19. Evaluation of Insecticidal Operations—National

The project is designed to investigate the effectiveness of both ground and aerial spraying operations against the tsetse fly, to assess the environmental implications of these operations and to improve upon present methods where possible.

			K
Cost:	SNDP—Capital	.. ..	92,000
	Recurrent	.. ..	94,000
	1972—Capital	.. ..	20,000

20. Sleeping Sickness Investigation—Eastern Province

An investigation will be mounted into the epidemiology of sleeping sickness in the Luangwa Valley.

			K
Cost:	SNDP—Capital	.. ..	59,000
	Recurrent	.. ..	68,000
	1972—Capital	.. ..	10,000
	Recurrent	.. ..	11,000

21. Improvement of Clinical Services

The provision of public veterinary clinical services by Government officers will be regularised and improved, in respect of both large and small animals, in the absence of a sufficient number of private practitioners.

			K	
Cost:	SNDP—Capital	.. ..	90,000	1973–76
	Recurrent	.. ..	625,000	1973–76

22. Transport for Rural Areas—National

Provision is made for the purchase of twenty-five Land-Rovers over the SNDP period for specific allocation to staff in remote rural areas.

		K
Cost:	SNDP—Capital	60,000
	Recurrent	43,000
	1972—Capital	10,000
	Recurrent	5,000

XII. Water Affairs

The main functions of the Department are:

(i) to advise on the best use of water;

(ii) to provide domestic and agricultural water supplies;

(iii) to excavate and maintain canals as a means of communication and as an aid in developing the fishing industry;

(iv) to advise on the control of pollution of both surface and underground water resources.

As outlined earlier in this document the establishment of a single central authority responsible for all aspects of water resources conservation, planning and use, is envisaged.

1. Hydrological Branch—National

During the SNDP it is planned to replace obsolete flow-measuring instruments, to overhaul 170 gauging stations, to provide cable cars for flow gauging at ten important stations and to establish 100 new gauging stations.

Cost: K374,000, of which K72,000 in 1972.

2. Hydro-geological Branch—National

To carry out detailed investigations on drinking water supplies, expenditure is required on special drilling equipment, on borehole logging equipment and on the replacement of obsolete resistivity equipment.

Cost: K80,000, of which K22,000 in 1972.

3. Drilling Section—National

The Department is required to drill for water in most of the country. During the SNDP its capacity will be improved by increasing its rigs from eight to fourteen, enabling it to drill 150 boreholes per year.

Cost: K558,000, of which K340,000 in 1972 (this includes contribution from a USSR loan).

4. Surveys and Investigations—National

Water resource surveys are required for planning the development of selected areas. The new Data and Planning Division of the Department will not be fully operative before the end of the SNDP and, in the meantime, consultants must be employed for the greater part of this work.

Cost: K300,000, of which K50,000 in 1972.

5. Irrigation Schemes—National

Provision is made for irrigation of 2,500 hectares. This includes completion of the installation at Chapula on the Copperbelt and Sinamalima on Lake Kariba. Other schemes at Nega Nega, Munkumpu and elsewhere, under discussion, will be implemented when approved.

Cost: K1,310,000, of which K50,000 in 1972.

6. River Basin Plans and Catchment Conservation—National

The project provides for the construction of dams and weirs in connection with catchment conservation and water resource development in rural areas, which lagged during the last two years of the FNDP. These structures are of special value in Eastern, Central and Southern Provinces; three dams and two weirs will be built in 1972 and this number will double by 1977.

Cost: K1,000,000, of which K105,000 in 1972.

7. Canals—Lake Bangweulu, Luapula Province

It is proposed to construct 29 km of canals each year during the SNDP.

Cost: K400,000, of which K80,000 in 1972.

8. Water Hyacinth Control—Kafue River, Central and Southern Provinces

Control of water hyacinth, essential to keep the river clear for hydro-electric use, is now a continuing operation and provision is only made for the purchase of one additional boat with spray gear.

Cost: K10,000, all in 1972.

9. Water Supplies—National

The programme provides for the installation of public water supply systems. New supplies or major extensions to be undertaken during the first three years of the SNDP are at:

Kapiri Mposhi	Chalimbana	Chadiza	Mpika
Kabompo	Chinsali	Kalabo	Kasempa
Isoka	Senanga	Chipepo	Mungwi
Pemba	Kaoma	Mwense	Lundazi
Mongu	Nchelenge	Chongwe	Kalomo
Nyimba	Mwinilunga	Sesheke	Mumbwa
Mporokoso	Kawambwa	Luwingu	Mbereshi
Choma	Chizongwe		

Additional provision is made for work required for the Tanzania–Zambia Railway, and also for the World Bank Education Project, under which water supplies are to be installed at schools.

Cost: K9,000,000, of which K1,700,000 in 1972.

B. PROGRAMMES OF PARA-STATAL BOARDS

I. Cold Storage Board

The activities of the Board include the operation of cattle saleyards, abattoirs (Lusaka, Livingstone, Kitwe and Chipata, plus the new Mongu abattoir), wholesale facilities and, temporarily, a limited number of retail outlets.

1. Lusaka Abattoir—Central Province

The new Lusaka abattoir is to be completed in 1972 and will replace the existing abattoir. It will handle 300 head of cattle per day and will be equipped with by-product and ice plants.

Cost: K195,000 in 1972.

2. Mongu Abattoir—Western Province

Work began on the abattoir in 1971 and it will be in operation towards the end of 1972. With a capacity of thirty head per day initially, expanding later to sixty per day, the abattoir will facilitate the supply of beef from the Western Province, encourage increased local production and reduce disruption to marketing arrangements recently caused by disease problems.

Cost: K517,000, of which K300,000 in 1972.

3. Rural Cold Rooms—National

The programme to establish depots with cold rooms at rural centres will end in 1972 with the completion of the depots at Kasama, Mansa, Solwezi, Chipata and Mpika.

Cost: K95,000 in 1972.

4. Self-service Refrigeration Cabinets—National

The Board's programme of leasing self-service refrigerated meat counters to retailers will continue during the SNDP. Concentration will be upon the line of rail towns in the first two years of the Plan period, and rural centres thereafter, related to the development of the supply of pre-packed meat.

Cost: K101,000, of which K30,000 in 1972.

5. District Depots—National

Small cold rooms are to be installed at District centres to wholesale meat, fish and other perishable products, performing the same function as the Provincial depots already established. Construction will commence in 1973.

Cost: K180,000 in 1973–76.

6. Livingstone Abattoir—Southern Province

It is planned to renovate and modernise the Board's abattoir at Livingstone in 1976.

Cost: K100,000.

7. Chipata Abattoir—Eastern Province

It is planned to renovate and modernise the Board's Chipata Abattoir in 1975.

Cost: K100,000.

8. Butchery Supplies Division—Lusaka and Kitwe

The Board is to establish a Butchery Supplies Division to import and distribute materials and equipment to butchers and supermarkets, as well as for the Board's own wholesale and retail requirements.

Cost: K80,000, of which K30,000 in 1972.

II. Dairy Produce Board

The Board is responsible for buying from producers all liquid milk produced along the line of rail from Monze to the Copperbelt, and for distributing milk and milk products, imported, domestically processed and domestically produced, to line of rail markets apart from Livingstone. Factories to receive, process and distribute the products are sited at Lusaka, Kitwe and Mazabuka. There are also distribution centres at Ndola, Kitwe, Chingola, Luanshya and Mufulira, and the Board is extending retail outlets in urban areas.

1. Central Factory—Lusaka, Central Province

The factory, costing a total of K4,375,000, will be completed in 1973. The plant will produce long-life milk and other milk products, and will replace the Board's existing Lusaka plant, which is obsolete.

Cost: K1,321,000 in SNDP, of which K1,000,000 in 1972.

2. Replacement and Extensions—Central, Southern and Copperbelt Provinces

Provision is made for necessary replacement of plant and for extensions to existing factories and depots.

Cost: K600,000, of which K45,000 in 1972.

3. Vehicles—National

Provision is made for the replacement of the Board's vehicles as required, and also for the expansion of its vehicle fleet. This is expected to increase during the SNDP from 100 units to about 250 units as the Board expands its distribution into new areas.

Cost: K1,228,000, of which K64,000 in 1972.

4. Staff Housing—National

Provision is made for the deposit on building society loans to be made available to the Board for the construction of staff housing, within the terms of Government's housing policy.

Cost: K217,000, of which K17,000 in 1972.

5. Office Furniture and Machines—National

Provision is made for the purchase of additional office furniture, secretarial and accounting machines, as required.

Cost: K313,000 (1973–76).

III. National Agricultural Marketing Board

1. Cotton Ginnery—Lusaka, Central Province

To cater for increased cotton production, capacity at the ginnery is to be doubled, to permit a throughput of 12,700 tons of seed cotton per year.

Cost: K130,000 in 1972.

2. Grain Handling and Storage—National

During 1972 a consultant survey is to be carried out to provide a definite estimate of future storage requirements. Some increase in plant and equipment is provided for in 1972.

Cost: K4,000,000, of which K312,000 in 1972.

3. Input Storage—National

Storage facilities are to be provided, where required, for such inputs as fertiliser, seeds, pesticides and implements. Annual input requirements are increasing with the growth of commercial farming, necessitating the Board carrying larger stocks. At the same time, much existing maize storage, currently used for inputs, must be released for its proper purpose as the crop increases.

Cost: K2,000,000, of which K429,000 in 1972.

4. Rural Marketing—National

Facilities are to be improved at the Board's buying and distribution points throughout the country, so that it may be able to offer a better service to the farming community.

Cost: K2,000,000, of which K200,000 in 1972.

5. Fruit and Vegetable Marketing—National

Handling and storage facilities for fruit and vegetable marketing are to be completed during the SNDP.

Cost: K300,000, of which K23,000 in 1972.

6. Engineering Workshops—National

The Board's mechanical and maintenance workshops in the principal line of rail and rural centres are to be brought up to the necessary standard during the SNDP.

Cost: K400,000, of which K20,000 in 1972.

7. Vehicles—National

Provision is made for replacement and purchase of vehicles as required to meet the Boards transport needs during the SNDP.

Cost: K750,000, of which K230,000 in 1972.

8. Offices and Office Equipment—National

Increased office accommodation is required at Provincial and some District centres during the SNDP. Provision is also made for the purchase of office equipment such as safes, desks, secretarial and accounting machines.

Cost: K300,000, of which K30,000 in 1972.

9. Staff Housing—National

Provision is made for deposits to be paid, as may be required, for loans from Zambia National Building Society for the construction of staff housing, in accordance with Government's housing policy.

Cost: K120,000, of which K50,000 in 1972.

IV. Rural Development Corporation

The Rural Development Corporation was established in 1969 to develop and run commercial production enterprises and also to undertake certain activities as Government services in the field of agriculture. A number of commercial subsidiaries have been established already and other new companies may be established during the SNDP, but the emphasis will be on consolidation, and improvement of efficiency.

1. RDC Headquarters—Lusaka

Provision is made for the purchase of capital equipment required for RDC Headquarters, and also for the costs of trial production of new commodities.

		K
Cost:	SNDP	250,000
	1972	100,000

2. Agricultural Finance Company Ltd—National

Funds will be made available to the AFC, as deemed necessary for its required scope of operations, both to increase its loan stock and to make good delayed or abandoned loan recovery.

3. Zambia Cattle Development Ltd—National

Development will continue of the commercial dairies and ranches run by the ZCDC, with emphasis on consolidation and improved management. The programme is financed partly by loan from the World Bank and commercial banks.

		K
Expenditure:	SNDP—GRZ funds	1,809,000
	External funds ..	1,429,000
	1972	500,000

4. Zambia Cattle Financing Co. Ltd—National

Funds are provided for the continued operation of the Grazier (Cattle Finance) Scheme, under which young stock are given on a loan agreement to approved farmers for both fattening and breeding.

		K
Cost:	SNDP	1,675,000
	1972	200,000

5. Zambia Farm Development Ltd—National

Development of commercial farming enterprises will continue, with emphasis on the production of those commodities required in the national interest which are not being produced in sufficient quantity by the commercial farming sector. This includes oilseeds and kenaf. Dairy enterprises are also to be added to several existing operations.

		K
Cost:	SNDP	2,145,000
	1972	500,000

6. Irrigation Development—Munkumpu, Copperbelt

When identified and fully studied, a large area of suitable land will be developed for intensive irrigation. Production may include citrus and other fruit for the fresh market and for processing, vegetables for processing, wheat and other high-value crops required in the national interest, which necessitate and can bear the cost of irrigation.

		K
Cost:	SNDP	1,818,000
	1972	120,000

7. Fish Farms—Copperbelt

A pilot project to establish the feasibility of commercial fish farming is to be undertaken. Planning will be completed in 1972, with implementation to start in 1972.

		K
Cost:	SNDP	360,000
	1972	10,000

8. Rural Air Services Ltd—National

The company was established in 1970, in the first instance to carry out tsetse-spraying operations for the Department of Veterinary and Tsetse Control Services. Since then it has added crop-spraying aircraft and operations. All aircraft are used for any suitable charter work which may become available during the off-seasons. The only possible additional function envisaged for the SNDP is the acquisition of a photographic aircraft to undertake aerial survey work. Existing operations may be expanded if this proves an economic proposition.

Cost: SNDP K400,000 (1973–76)

9. Zambia Survey Company

It is proposed to enter into partnership with a firm of well-established reputation to set up an aerial photography company to undertake survey work in Zambia. This will obviate the need for continued contracts with private flying companies and ensure the fullest utilisation of all the photo-interpretation equipment already owned by Government.

Expenditure: 1972 only K10,000

10. Cassava Starch Factory—Northern Province

It is proposed to set up a factory for the manufacture of starch from cassava, complete with a nucleus estate to provide a minimum economic throughput. Outgrower production will be encouraged. The plant will be located in the Northern Province on the new line of rail; its exact site will be determined by physical requirements. Development is planned to start in 1973.

Cost: SNDP K160,000 (1973–76)

11. Poultry Processing Plants—Lusaka and Copperbelt

It is proposed to establish three central poultry processing plants. Two are for the Copperbelt and one for Lusaka. These will provide an efficient, hygienic link between the commercial poultry producer and the urban consumer, able to regulate both supply and price.

		K
Proposed expenditure:	SNDP	654,000
	1972	10,000

External participation is possible.

12. Zambia Pork Products Ltd (ZAPP)—Lusaka

The ZAPP processing plant in Lusaka will be modernised and enlarged to cope with the increasing throughout of pork products and also to maintain quality.

		K
Cost:	SNDP	800,000
	1972	100,000

13. Nyama Farms Ltd—Kabwe, Central Province

The company manages a large mixed farming enterprise formed in 1971 by combining several abandoned commercial farms totalling 3,597 hectares. It will grow maize, oilseeds and other crops required in the national interest, and plans to establish a beef breeding herd of 500 cows, with possibly also a small dairy enterprise. The SNDP funds come from a loan from the African Development Bank.

		K
Cost:	SNDP	491,000
	1972	436,000

V. Tobacco Board of Zambia

Besides being responsible for marketing and processing tobacco, the Tobacco Board of Zambia (TBZ) is also charged with organising about half of the actual tobacco production in the country, and will probably take over extension as well. Apart from one scheme producing Burley tobacco, the Board's production programme is concerned with flue-cured Virginia tobacco. This programme takes three forms:

(i) Tenant farming, where experienced growers are leased large-scale farms by the Board;

(ii) Assisted Tenant farming, where farmers who have completed a four-year training course are leased medium-sized holdings;

(iii) Family Farm Schemes, where new producers are settled on small-scale units in schemes each comprising 1,200 farm men under intensive supervision.

Both the Tenant and Assisted Tenant programmes will be expanded during the SNDP, and the Family Farm Schemes will be increased in number.

1. Kapara Scheme—Chipata, Eastern Province

The development of this settlement scheme for the production of Burley tobacco will continue in the SNDP.

			K
Cost:	SNDP—Capital	.. ..	38,000
	Recurrent	.. ..	296,000
	1972—Capital	.. ...	38,000
	Recurrent	.. ..	44,000

2. Virginia Tobacco Tenant Farming—Central and Southern Provinces

The TBZ will continue to develop large-scale tobacco farms to lease to commercial growers. The programme is partly financed by a World Bank loan.

				K
Cost:	SNDP—Capital:	GRZ	..	690,000
		IBRD	..	200,000
	Recurrent	GRZ	..	60,000
	1972—Capital:	GRZ	..	215,000
		IBRD	..	50,000
	Recurrent	GRZ	..	10,000

3. Virginia Tobacco Assisted Tenant Farming—Central and Southern Provinces

The TBZ will continue its programme of establishing farmers, who have completed four years' training in tobacco production, on medium-scale farms. Existing assisted tenant farms will be expanded, where possible, to improve their returns. The programme is partly financed by a World Bank loan.

				K
Cost:	SNDP—Capital:	GRZ	..	800,000
		IBRD	..	1,000,000
	Recurrent	..	..	659,000
	1972—Capital:	GRZ	..	119,000
		IBRD	..	200,000
	Recurrent	..	..	200,000

4. Popota Tobacco College—Southern Province

To cope with the planned expansion of the TBZ production programme, the College plans to train annually thirty management personnel to staff the Assisted Tenant and Family Farm Schemes. The College is integrated with the Popota Assisted Tenant Training Scheme (*see* below) and is under the same management.

			K
Cost:	SNDP—Capital	.. ..	87,000
	Recurrent	.. ..	588,000
	1972—Recurrent	.. ..	95,000

5. Popota Assisted Tenants Training Scheme—Southern Province

The scheme, providing the final two years of training for assisted tenants, will increase its output during the SNDP. These trainees have already spent two years before coming to Popota, where they spend the first year as foremen on a twelve-hectare farm receiving 30 per cent of the profit, and the second year farming on a 70 per cent profit basis, before moving on to their own tenancies.

		K
Cost:	SNDP—Capital	160,000
	Recurrent	500,000
	1972—Recurrent only ..	90,000

Virginia Tobacco Family Farm Schemes

The TBZ will continue in the SNDP its programme of settling small-scale farmers on intensively supervised family farms, to grow Virginia tobacco and other crops. It is anticipated that the programme will be partly financed by a World Bank loan. This will be distributed as necessary for existing schemes and for the establishment of further ones. The loan is expected to be drawn as follows:

1973	1974	1975	1976	Total
K	K	K	K	K
1,000,000	1,642,000	1,845,000	1,482,000	5,969,000

Detailed expenditure allocations are as follows:

6. Serenje and Kazimule Schemes—Central Province

		K
Expenditure:	SNDP—Capital	81,000
	Recurrent	169,000
	1972—Capital	51,000
	Recurrent	39,000

7. Virginia Family Farm Scheme—Zemba, Eastern Province

		K
Expenditure:	SNDP—Capital	150,000
	Recurrent	300,000
	1972—Capital	82,000
	Recurrent	142,000

8. Virginia Family Farm Scheme—Mungule, Central Province

		K
Expenditure:	SNDP—Capital	205,000
	Recurrent	400,000
	1972—Capital	88,000
	Recurrent	88,000

9. Virginia Family Farm Scheme—Lundazi, Eastern Province

		K
Expenditure:	SNDP—Capital	175,000
	Recurrent	480,000
	1972—Capital	102,000
	Recurrent	76,000

10. Virginia Family Farm Scheme—Gamela, Southern Province

		K
Expenditure:	SNDP—Capital	216,000
	Recurrent	300,000
	1972—Capital	109,000
	Recurrent	101,000

11. VIRGINIA FAMILY FARM SCHEME—KAOMA, WESTERN PROVINCE

			K
Expenditure:	SNDP—Capital	.. ..	264,000
	Recurrent	.. ..	300,000
	1972—Capital	.. ..	52,000
	Recurrent	.. ..	58,000

12. VIRGINIA FAMILY FARM SCHEME—MKUSHI, CENTRAL PROVINCE

			K
Expenditure:	SNDP—Capital	.. ..	660,000
	Recurrent	.. ..	220,000
	1972	.. .. ..	—

13. VIRGINIA FAMILY FARM SCHEME—SIACHITEMA, SOUTHERN PROVINCE

			K
Expenditure:	SNDP—Capital	.. ..	713,000
	Recurrent	.. ..	167,000
	1972	.. .. ..	—

14. VIRGINIA FAMILY FARM SCHEME—SINDA MISALI, EASTERN PROVINCE

			K
Expenditure:	SNDP—Capital	.. ..	499,000
	Recurrent	.. ..	243,000
	1972—Capital	.. ..	136,000
	Recurrent	.. ..	65,000

15. VIRGINIA FAMILY FARM SCHEME—LUMEZI, EASTERN PROVINCE

			K
Expenditure:	SNDP—Capital	.. ..	574,000
	Recurrent	.. ..	259,000
	1972—Capital	.. ..	107,000
	Recurrent	.. ..	61,000

16. VIRGINIA FAMILY FARM SCHEME—TUNGATI, NORTHERN PROVINCE

			K
Expenditure:	SNDP—Capital	.. ..	584,000
	Recurrent	.. ..	132,000
	1972	.. .. ..	—

17. VIRGINIA FAMILY FARM SCHEME—SAMFYA, LUAPULA PROVINCE

			K
Expenditure:	SNDP—Capital	.. ..	584,000
	Recurrent	.. ..	132,000
	1972	.. .. ..	—

18. VIRGINIA FAMILY FARM SCHEME—KABOMPO, NORTH-WESTERN PROVINCE

			K
Expenditure:	SNDP—Capital	.. ..	341,000
	Recurrent	.. ..	125,000
	1972	.. .. ..	—

19. VIRGINIA FAMILY FARM SCHEME—WESTERN PROVINCE

			K
Expenditure:	SNDP—Capital	.. ..	341,000
	Recurrent	.. ..	125,000
	1972	.. .. ..	—

20. Four Virginia Family Farm Schemes—Unallocated

			K
Expenditure:	SNDP—Capital	.. ..	480,000
	Recurrent	.. ..	120,000
	1972	.. .. ..	—

21. Mukonchi Virginia Tobacco Training Schemes—Central Province

Development will continue at the TBZ's training centre at Mukonchi, producing trained assisted tenants and TBZ staff. The scheme is partly financed by a World Bank loan.

			K
Expenditure:	SNDP—Capital:	GRZ ..	46,000
		IBRD ..	1,293,000
	Recurrent	.. ..	1,297,000
	1972—Capital:	GRZ ..	—
		IBRD ..	321,000
	Recurrent	.. ..	697,000

22. Mukonchi Assisted Tenant Settlement Scheme—Central Province

Trained assisted tenants are to be settled on a scheme attached to the training centre. Some World Bank loan funds are available.

			K
Proposed expenditure:	SNDP—Capital only:	GRZ	1,295,000
		IBRD	205,000
	1972—Capital: GRZ only	..	54,000

23. Tobacco Production Department—National

Provision is made for the capital and recurrent costs incurred in the administration of the TBZ's Tobacco Production Department.

			K
Expenditure:	SNDP—Capital	.. ..	145,000
	Recurrent	.. ..	1,855,000
	1972—Capital	.. ..	35,000
	Recurrent	.. ..	481,000

24. Virginia Tobacco Apprentices Scheme—National

The programme of posting apprentice tobacco farmers on to commercial farms for training will be concluded in 1972.

Expenditure: 1972 only—Capital only K9,000

25. Packing Plant Scrap Handling Machinery—Lusaka

Machinery to handle tobacco scrap will be acquired for the Board's packing plant in 1974.

Expenditure: SNDP (1974)—Capital only K40,000.

26. Auction Floor Barrows—Lusaka

Extra bale barrows will be acquired for the Board's auction floor in 1972.

Expenditure: SNDP K1,000; 1972 K1,000.

27. TBZ Offices—Headquarters

Provision is made for the extension of the TBZ offices at Headquarters in 1974.

Expenditure: SNDP (1974)—Capital only K75,000.

28. Mortgage Repayments

Provision is made for the Board to pay off mortgages on building loans in 1972.

Expenditure: 1972—Capital only K60,000.

CHAPTER II

MINISTRY OF LANDS AND NATURAL RESOURCES

SUMMARY

The five-year investment programme of the Ministry is summarised below:

Table 3—Ministry of Lands and Natural Resources: Investment Programme, 1972–76
(K thousand)

Departments	1972	1973–76	Total
Department of Forestry	2,755	10,975	13,730
Department of Lands	—	1,835	1,835
Department of Surveys	85	2,230	2,315
Department of Wildlife, National Parks and Fisheries	602	16,052	16,654
Department of Conservation and Natural Resources	—	197	197
Total	3,442	31,289	34,731

DEPARTMENTAL PROGRAMMES

I. Forestry Department

1. Forestry Surveys—National

The department provides the services of surveys and enumeration, forest and plantation management plans, aerial photographic interpretation and survey recording. Expenditure is required on equipment and infrastructure.

Cost: SNDP K100,000, of which K35,000 is for 1972.

2. Forest Research—National

The project includes forest and forest product research, covering the whole country.

Estimated expenditure for infrastructure and equipment: K555,000 of which K95,000 is for 1972.

3. Forest Industries—Planning

After the completion of the FAO feasibility study on industrial plantations a follow-up is required, which is provided by this project.

Estimated cost: K50,000 (1973–76).

4. Forest Training—Copperbelt Province

This provides for the infrastructure required in the Zambia Forest College at Mwekera, and the forest workers' training centre at Chita, near Kitwe.

Cost: SNDP K75,000 of which K20,000 is for 1972.

5. Industrial Plantations—Copperbelt Province

This provides for the management of the existing areas, plus the expansion of the plantations by 2,000 hectares. The programme is partially World Bank financed.

Cost: SNDP K12,780,000 of which K2,575,000 is for 1972.

6. Forest Extension Service—National

This programme aims at expanding extension services to communal and farm plantations and woodlands, and at developing nurseries. There is also a joint programme with the conservator of Natural Resources on the conservation and use of trees in the protection of soil from erosion, and of water supplies.

Cost: SNDP K55,000 of which K10,000 is for 1972.

7. Beekeeping Research and Development—National

The project provides funds for infrastructure, fundamental research and the development of commercial honey production.

Cost: SNDP K30,000 of which K20,000 is for 1972.

8. Zambia Teak Reafforestation—Western Province

This programme provides for the reafforestation of the teak and mukwa forests.

Cost: SNDP K85,000 for the 1973–76 period.

II. Lands Department

1. New Headquarters—Lusaka

This is a combined new Headquarters for both the departments of Lands and Surveys, which is required because of lack of space in their present locations. (*See also* III 3).

Cost: K1,175,000, for the 1973–76 period.

2. New Sub-office—Kitwe

This is a new building required because of lack of space in present accommodation and an increased work load.

Cost: K220,000 for 1973–76.

3. Purchase of Farms for Squatter Resettlement—National

Cost: K200,000 (1973–76).

4. Staff Housing—National

Cost: K240,000 (1973–76).

III. Surveys Department

1. Specialist Vehicles—National

Owing to the nature of the work involved in the preparation of maps, special vehicles able to withstand the terrain are required. The immediate purchases are for the completion of the mapping of Western Province.

Cost: SNDP K200,000, of which K25,000 is for 1972.

2. Aerial Photography, Mapping and Specialist Equipment

Funds are required for payment of aerial photographic contracts and the purchase of equipment for the Department.

Total amount allocated K1,015,000, of which K60,000 is for 1972.

3. New Headquarters—Lusaka

An amount of K1,100,000 will be provided in 1972 to cover the proportion of the cost which Surveys Department has to contribute for the construction of combined Headquarters building. (*see also* II 1 above).

IV. Department of Wildlife, National Parks and Fisheries

1. Kafue National Park

The programme provides for the movement of the Park Headquarters from Ngoma to a site near the Kafue Hook; the establishment of two new ranger camps at Nalusanga and Tabyoyo for the better control of traffic, the construction of a new road to circumvent the proposed Itezhitezhi Dam on the Kafue, and for anti-poaching equipment.

Cost: K1,179,000, for 1973–76.

2. Luangwa Valley National Park

The programme is designed to provide staff housing and build up the infrastructure required for tourist trade. This includes the construction of three minor airfields, vehicles and equipment.

Cost: SNDP K1,632,000, of which K142,000 is for 1972.

3. Central Command

Since this command now includes many new areas that have not been declared game management areas, expenditure during the SNDP is designed to provide roads and other infrastructure for the management of the area, staff housing, vehicles and equipment.

Cost: SNDP K744,000, of which K28,000 is for 1972.

4. Bangweulu Command

This is now a separate command, as from the start of the SNDP and the project provides for the setting-up of the area as a separate command with a Headquarters complex and suitable infrastructure.

Capital Cost: K749,000 is for 1973–76.

5. Northern Command

With the split from the Bangweulu Command, the main feature of the project is the provision for the movement of the Headquarters from Kasama to Sumbu, the most suitable place for the command Headquarters, plus the maintenance of the Park.

Cost: K717,000, of which K97,000 is for 1972. Main items of the cost are: staff housing, office blocks, roads and two minor airfields.

6. North-Western Command

This is a new game management area. Estimated cost for infrastructure: K372,000 (1973–76).

7. Western Command

This is a new game management area of difficult terrain and the project provides the setting up of the infrastructure required, mainly staff housing and vehicles.

Cost: K418,000, of which K36,000 is for 1972.

8. Musi-O-Tunya

Because of the changes in command, this is a smaller park area. The project is designed for its maintenance and also to provide new basic infrastructure.

9. Game Cropping

Under protection increase of some species has led to serious habitat degradation, and as a consequence, cropping of elephant, hippopotamus, buffalo and impala was started in the FNDP. This was halted in 1970, but the project will be restarted during the SNDP.

Cost: K504,500 (1973–76). Main cost items are: staff housing, abattoir, roads and vehicles.

10. Anti-poaching Units

The Headquarters is at Chilanga with smaller units at Chunga, Chipata and Sumbu. Its duties are the national control of large-scale poaching and illegal trafficking in game supplies, and of marauding animals and SNDP expenditure is designed to that end.

Cost: K124,000 (1973–76). Main cost items: office and store rooms and vehicles.

11. Wildlife Division Training School

The project provides for the establishment of permanent buildings for the training of the game guards and also adequate transport for the field training of the guards.

Cost: K143,000 (1973–76).

12. Wildlife Conservation Education Camps

This project provides for the transference to GRZ of two schools for wildlife and general conservation education, previously financed privately in the Kafue and Luangwa Parks.

Cost: K133,000 (1973–76).

13. Chilanga Zoological Park

This provides for the expansion of the Munda Wanga Park with more spectacular animals, which would be fed on controlled and cropped animals. This requires a refrigerated plant and infrastructural facilities, such as game paddocks, etc.

Estimated Cost: K89,000 (1973–76).

14. East Lusaka Zoological Park

The purpose is to establish a 'Park', for recreation and tourist attraction to the East of Lusaka, within which the Training Centre for the Conservation of Natural Resources would be housed. A rural Park infrastructure will be needed.

Cost: K411,000 (1973–76). Main cost items: staff housing, office block and roads.

15. Wildlife Research and Management

The development programme for the SNDP is given below, according to main areas of activity.

(*a*) *Headquarters—Chilanga*

It is proposed to build a Research and Managerial Depot at Chilanga. This will include a laboratory and equipment, one Land-Rover and a specialist vehicle.

Estimated Cost: K78,000, of which K8,000 in 1972.

(*b*) *Kafue Flats*

Additional staff is required and consequently infrastructure, housing accommodation, etc., should be expanded accordingly. An amount of K125,000 would be needed during the 1973–76 period. This will also cover the cost of a store and two lorries.

(*c*) *Liuwa and Sioma Ngwezi Plain*

Cost: K89,000 (1973–76), for staff housing and office block.

(*d*) *Luangwa National Park*

Cost: K53,500 (1973–76) for staff housing, laboratory/office block and a vehicle.

(*e*) *Northern Command* (excluding the Bangweulu area)

Cost: K92,000 (1973–76), for staff housing and two laboratory/offices.

(*f*) *Bangweulu Command*

Cost: K121,000.

(*g*) *Luangwa Command*

Cost: K200,000 (1973–76), for staff housing, laboratory/office block and one Land-Rover.

(*h*) *Kafue Command*

Cost: K78,000 (1973–76), for staff housing, laboratory/store and two Land-Rovers.

16. Replacement of Aircraft

This provides funds for purchasing two light aircraft for anti-poaching and survey services, in replacement of old aircraft.

Cost: K83,000 (1973–76).

17. Experimental Fishing Craft

This will ensure continuation of work on experimental design of boats suitable for the Fisheries in Zambia.

Cost: K129,000 (1973–76), mainly for boat-building materials and repair services.

18. Fisheries Research Institute—Headquarters, Chilanga

This project provides for the GRZ contribution to the FAO/UNDP Fisheries Research Institute.

Cost: K390,000 of which K85,000 will be spent in 1972.

19. FISHERY RESEARCH

This provides for the expansion of Zambian Fishery Research.

Cost: K448,000 (1973–76) for housing, vehicles, research equipment, fishing boats, water pumps, etc. K8,000 will be spent in 1972.

20. HEADQUARTERS

This provides for the construction of staff housing, the electrification of the density housing area, the formation of an information unit and aid to young fishermen's clubs, and the purchase of vehicles and equipment for extension work.

Cost: K414,000, of which K169,000 is for 1972.

21. VICTORIA FALLS NEW RESTAURANT (*see also* Chapter VI, section II 2)

Cost: K36,000 for 1972.

22. FISH MARKETING

This provides for a capital fund to be used by Lake Fisheries of Zambia, in order to buy fishing equipment, transport and cold storage equipment.

Cost: K4,000,000 (1973–76).

NOTE: This project may be transferred to another Ministry.

23. FISH CREDIT

This provides for a fund to be available for distribution and a sum to service the loans.

Cost: K2,700,000 of which K260,000 is for 1972.

24. EXTENSION SERVICES AND TRAINING

This will provide funds for equipment and infrastructure for training fishermen and for staff housing. The total amount of K792,000 will be allocated as follows:

(*a*) Bangweulu Fisheries ..	K293,500	(1973–76)
(*b*) Kafue Fisheries	K271,000	(1973–76)
(*c*) Headquarters (Chilanga) ..	K227,500	(1973–76)

25. FISH FARMING—NATIONAL

An amount of K236,000 (1973–76) will be provided for the extension of existing infrastructure and for staff housing.

V. Department for the Conservation of Natural Resources

Nature Centre and Training Unit

The purpose is to build a specialised centre for staff training and public education on matters of environmental conservation.

Cost: K197,000 (1973–76).

CHAPTER III

MINISTRY OF MINES AND MINING DEVELOPMENT

SUMMARY

The 1972–76 investment programme is summarised in the table below:

Table 4—Summary of Capital Expenditures during the SNDP Period
(K thousand)

Projects	1972	1973–76	Total
On-going projects ..	1,055	12,793	13,848
New projects	262	27,477	27,739
MINDECO	105,100	333,800	438,900
Total	106,417	374,070	480,487

PROJECTS IN DETAIL

I. On-going Projects of the Ministry

1. Examination of Mineral Deposits

The Project's aims are:

(i) to prospect the hot springs and their associated salt deposits;
(ii) to prospect the manganese occurrences in Luapula and Northern Provinces;
(iii) to examine building materials (mainly clays) in rural development centres;
(iv) to follow up specific targets by geophysical surveys.

The project is expected to cost K1,500,000 over the SNDP period. Of this total, K230,000 will be spent in 1972, including K100,000 for geo-chemical surveying using a locally-hired helicopter. In the remaining years to 1976, most of the cost will be incurred in expenditure on drilling operations to be carried out by local contractors.

2. Exploration of Mineral Deposits West of Kabwe

A large-scale drilling survey of a 37,000 square km block to the West of Kabwe in Central Province, which has been jointly carried out by the Geological Survey Department (GSD) and the United Nations Development Programme (UNDP), will be completed. The programme, which will investigate a number of promising prospects, involves the use of experimental techniques developed elsewhere in order to determine their applicability to the Zambian environment.

Cost: K120,000 in 1972.

3. Reconnaissance Survey of Western Province

The current survey of this area of relatively less promising mineral potential will continue. These activities will be carried out by local and overseas contractors, under the supervision of the GSD. The principal benefit will be the contribution to a comprehensive mapping of the country.

Completion of the 1971 airborne survey will cost K105,000 and a follow-up programme of ground geophysics and diamond drilling is expected to cost K200,000. Of the total K305,000, an amount of K205,000 is allocated for 1972.

4. Regional Mapping

Mapping is the most important service of the GSD rendered to the mining industry; it also provides valuable information for planning in agriculture, forestry, communications, water supply, urban development, etc. By the end of 1976, mapping will be completed in the Central Block (from Chipata to Mumbwa, and from Chingola to Choma) and work will continue eastward in Luapula, Northern, North-Western and Southern Provinces. Maps will be published on 1 : 100,000 and on 1 : 250,000 scales. In 1972, work will be carried out in eight to ten areas.

The estimated cost of the project is K775,000. This will cover mainly expenditure on drilling over the SNDP period (drilling will be carried out in a search for copper-bearing lower Roan sediments at shallow depths) and on processing data derived from magnetometer surveys. The allocated amount for 1972 is K235,000.

5. Buildings and Equipment

The wide-ranging advisory and analytical services offered by the GSD, as well as the support facilities provided for its own activities in the field, require expansion of the professional staff, which in turn require additional equipment and office accommodation.

In order to provide for this expansion, an expenditure of K725,000 on headquarters services is required during the SNDP; of this total, K185,000 will be spent on buildings (from local contractors) in 1972 and for purchase of equipment.

6. Maamba Collieries

(i) *completion of installation of equipment* for the coal washing plant and other production facilities. This will help to reduce costs and increase the thermal efficiency of coal to prospective customers;

(ii) *investment in machinery and vehicles* (e.g. large pit vehicles). The company will initiate and complete a *housing scheme* comprising 200 houses and their associated roads and services;

(iii) *Kanzinze River diversion:* This will be necessary to facilitate mining operations.

Total estimated cost: K4,623,000 for the 1973–76 period.

7. Development of Small Mines and Mining School

The Ministry will encourage the development of small mines by providing financial assistance where necessary. In addition, a School of Mines will be financed in order to promote mining training which will serve the extractive industries of the country. For the SNDP period, a total of K5,800,000 has been budgeted. Of the total budget allocation, only K80,000 will be spent in 1972. This sum will be provided in the form of loans by the Government to small mines.

Table 5—Summary of On-going Projects of the Ministry
(K thousand)

No.	Title	Location (Province)	1972	1973–76	Total
1	Examination of Mineral Deposits	National	230	1,270	1,500
2	Exploration West of Kabwe ..	Western	120	—	120
3	Survey of Western Province ..	Western	205	100	305
4	Regional Mapping	National	235	540	775
5	Buildings and Equipment ..	Central	185	540	725
	Geological Survey Department—*Total*	—	975	2,450	3,425
6	Maamba Collieries	Maamba	—	4,623	4,623
7	Small Mines and School of Mining	—	80	5,720	5,800
	Grand Total		1,055	12,793	13,848

II. New Projects of the Ministry

1. Regional Geophysical Surveys

It is intended that information from the airborne geophysical surveys be combined with information from the current regional mapping programme to contribute to the overall national picture. The gravity surveys will extend the very sparse grid of gravity measurements, and contribute to the elaboration of a gravity map for the Zambezi, Luangwa, Kafue and Luapula valleys and the Northern Province.

The total cost of the project will be K2,119,000 for the five-year period, out of which K262,000 is for 1972.

2. Undetermined Projects

Identification of new projects at a total cost of K620,000 is envisaged during the 1973–74 period of the SNDP. These projects will arise from the prospecting and exploration currently under way.

3. Maamba Thermal Power Plant

This is a scheme which will utilise the coal middlings from Maamba Colliery to generate electricity.

The estimated expenditure will be K25,000,000 for the 1973–76 period.

Table 6—New Projects of the Ministry

(K thousand)

No.	Title	Location (Province)	1972	1973–76	Total
1	Regional Geophysical Survey ..	Various	262	1,857	2,119
2	Undetermined projects	Various	—	620	620
	Geological Survey Department—*Total*	—	262	2,477	2,739
3	Maamba Power Plant	Maamba	—	25,000	25,000
	Total	—	262	27,477	27,739

III. Mindeco Projects

1. Tailings Leach Plant

Production of 25,000 metric tons per annum from stockpiled low-grade oxide concentrates by leaching and cementation process is the result of Stage I development which was commissioned late in 1971 and will operate for approximately two-and-a-half years. A project for recovery of (at present) unrecoverable copper in the tailings from the Chingola Division and recovery of copper from the retreatment of old tailings dumps is due to be commissioned during 1974. It will involve leaching, solvent extraction and electrowinning of approximately twelve million metric tons of material a year and will result in additional production of 55,000 metric tons of copper per annum.

2. Gas Collection and Acid Plant

This project involves installation of major gas collection and cleaning equipment at the smelter at Rokana Division and the provision of a 450 metric ton per day acid plant. The additional acid production is required for the tailings leach plant.

3. Rokana Oxide Areas

Open pits will be developed in the Rokana oxide areas and an oxide flotation section will be added to the existing concentration at Rokana. This project will provide an additional 18,000 metric tons of copper, some of which will be replacing lower copper production from underground sources due to decreasing grades and difficult mining conditions.

4. Chingola Project

This provides for the development of a new, small, open pit at Chingola to replace a pit that has been completed.

5. Kansanshi Project

The recommissioning of Kansanshi mine will coincide with the commissioning of the Tailings Leach Plant, Stage II, at Chingola. Ore will be mined at Kansanshi by open pit and transported to Chingola for metallurgical treatment or treated at the site.

6. Cobalt Tankhouse Extension

The extension of the cobalt tankhouse at Rokana will be provided in line with forecasts of increasing cobalt production.

7. Konkola Shaft

The reopening of a No. 2 shaft at the Konkola Division is planned for 1976.

8. Cobalt Recovery from Slag

Research work is at present taking place with a method for the recovery of copper and cobalt from converter slags. A tentative date for commencement of construction of a plant to achieve this is 1974.

9. and 10. Asarco Furnace and Second Oxygen Plant

These two projects have been included in forecasted extensions as possibilities only. Further investigations are required.

11. Development of the Baluba Ore Body

The Baluba ore body will be developed in two stages as an underground mine operated and managed by the Luanshya Division. Stage I will produce 22,000 metric tons of copper per annum with production commencing early in 1973. This rate will be maintained for approximately four years, after which Stage II of the project will increase production to 50,000 metric tons of copper per annum. The increase in production from 22,000 metric tons per annum to 50,000 metric tons per annum will be timed to counteract falling production from the Luanshya ore body, thereby maintaining a total output of approximately 118,000 metric tons per annum from the Luanshya Division. Baluba ore will be treated through an extension to the Luanshya concentrator.

12. Chambishi Expansion Project

The Chambishi expansion project has been planned to double Chambishi's output to 48,000 metric tons of copper per annum by the introduction of underground mining down the dip of the existing open pit; it will also be necessary to enlarge the existing crushing and concentrating plant. The underground operation, which will provide a phased increase of ore reaching 9,000 metric tons per month by mid-1973, will be doubled in size after the open pit is depleted in 1978, thus retaining the annual rate of 48,000 metric tons of copper. Until the enlarged crushing and concentrator plant is available at Chambishi in 1973 spare concentrator capacity at Mufulira is being used to treat any additional ore production above the present capacity of the Chambishi concentrator.

13. Fourth Tankhouse and Separate Liberator Section at Mufulira

In order that Roan Copper Mines (RCM) be able to electro-refine the whole of the primary smelter output from 1973 onwards additional tankhouse capacity of nearly 80,000 metric tons per annum will be required. This will be provided by an extension to the existing refinery at Mufulira. The separate liberator section will provide capacity of 4,000 metric tons per annum and the conventional capacity of the fourth tankhouse will be 58,000 metric tons per annum. In addition, this tankhouse will be equipped for periodic current reversal enabling at least a 30 per cent increase in capacity to be achieved, thus giving a total capacity of approximately 80,000 metric tons per annum.

14. Sands Plant at Mufulira

The change-over from caving methods to sandfilled stoping methods of mining require the production and distribution of large quantities of classified tailings. The installation will consist of a classification plant of pumps and cyclones on surface and underground storage chambers, boreholes, and reticulation systems. The classification plant will be sited at the north-east corner of the existing flotation bay of the Mufulira concentrator. The slime fraction will be disposed of through the existing tailings disposal system.

15. to 20. Comprise other Minor Expansion Programmes of the RCM Division

21. Lead and Zinc Mines in Kabwe

Significant development is expected in the metallurgical plant at Kabwe, which would result in processing of dump materials in the new Waelz Kilns. This will lead to an increased production of lead and zinc, as well as substantial extension of the mines' life to about twenty years or more.

22. Other Mining and Quarrying

This relates to gypsum and others to be developed or expanded.

Table 7—MINDECO Projects
(K thousand)

No.	Title	Location	1972	1973–76	Total 1972–76
1	Tailings Leach Plant	Chingola	11,938	20,528	32,466
2	Gas Collection and Acid Plant	Nkana	7,657	12,357	20,014
3	Rokana Oxide Areas (Oxide Ores and Sand Flotation)	Nkana	9,949	7,933	17,882
4	Chingola 'C'	Chingola	957	—	957
5	Kansanshi	Kansanshi	191	9,044	9,235
6	Cobalt Tankhouse Extension	Nkana	—	78	78
7	Konkola	Chililabombwe	—	1,436	1,436
8	Cobalt Recovery from Slag	Nkana	—	5,981	5,981
9	Asarco Furnace	Nkana	—	2,301	2,301
10	Second Oxygen Plant	Nkana	—	5,751	5,751
11	Baluba Development	Baluba	8,593	10,517	19,110
12	Chambishi Development	Chambishi	16,772	15,718	32,490
13	Tankhouse and Separate Liberation	Mufulira	1,889	65	1,954
14	Sands Plant	Mufulira	657	90	747
15	Mufulira Division	Mufulira	1,536	7,119	8,655
16	Luanshya Division	Luanshya	2,325	9,034	11,359
17	Ndola Copper Refinery	Ndola	632	886	1,518
18	Chibuluma and Kalengwa Mines	Chibuluma	3,442	6,665	10,107
19	Chambishi Mine	Chambishi	1,082	1,374	2,456
20	Central Services	Kalulushi	287	1,035	1,322
21	Lead and Zinc Mines	Kabwe	766	10,321	11,087
22	Other Mining and Quarrying	National	479	1,084	1,563
	Sub-total		69,152	129,317	198,469
	Capital expenditure for maintaining Mines Capacity[1] *Sub-total*		35,848	157,983	193,831
	Unidentified projects[2] *Sub-total*		100	46,500	46,600
	Grand Total		105,100	333,800	438,900

[1] Including estimated amount for replacement and similar expenditures.
[2] Including estimated participation of MINDECO in new developments.

CHAPTER IV

MINISTRY OF TRADE AND INDUSTRY

I. Trade Sector

Import/Export Agency

The proposal to set up this agency was announced among the Matero Reforms in 1969. Among other tasks, the Agency will handle bulk importation of goods under international trade and loan agreements. As this kind of importation starts in large quantities in 1972, the setting-up of the Agency has now become very urgent. To this end an amount of K1,990,000 is earmarked for this project, of which K500,000 will be spent in the course of 1972, while the remaining K1,490,000 will be spent in 1973.

II. Manufacturing Sector

1. Rural Industries

In the light of experience gained with similar projects at other places it is proposed to build new rural industries and service units as follows:

(*a*) 12 rural bakeries;
(*b*) 15 rural garages;
(*c*) 15 rural restaurants;
(*d*) 19 rural development workshops;
(*e*) 7 stone crushers;
(*f*) forest product processing units to manufacture building frames, wooden houses, doors, etc;
(*g*) food processing (conservation of fruit and vegetables);
(*h*) wire products (a pilot plant to investigate the production possibilities of poultry batteries and allied products made of wire);
(*i*) urban industrial estates.

An appropriate number of these small-scale units will be in operation in 1972 and more will be built during the subsequent years.

The sum total of capital costs to be borne by the Government budget amounts to K3,715,000, out of which K600,000 will be spent in 1972.

2. Fish Buying and Processing

This is a complex of several projects aiming at improving the income position of fishermen and the nutrition of urban and rural people by increased hauls, better organised buying and more efficient processing of fish. The complex embraces the following projects:

(*a*) fish catching and processing—a continuing project at Mpulungu/Kashikishi (Northern Province);
(*b*) both an extension of storage in the fisheries' area and establishment of rural depots in all provinces;
(*c*) provision of heavy refrigerated trucks;
(*d*) fish buying at Lake Mweru-Wantipa;
(*e*) a fish meal plant (Northern Province);
(*f*) fisheries development project on Lake Bangweulu;
(*g*) fisheries development project on Lake Kariba;
(*h*) fisheries development project on Kafue River and Lake;
(*i*) a central workshop to serve all the above projects.

The actual work on the above projects will start in 1972 and will continue throughout the period of the SNDP.

The total capital cost is K1,395,000, of which K200,000 will be spent in 1972.

3. Grain Milling

This is a complex of various important development projects all meant to improve and expand the grain milling industry of the country. The complex comprises the following projects:

(*a*) mill extension and improvement at Mansa, Mongu and Mkushi;
(*b*) strengthening milling capacity at Chipata and Kasama;
(*c*) increasing the milling capacity in Mongu, Mansa, Mkushi, Kabompo, Chipata and Kasama;
(*d*) new rural maize mills in Choma and Mbala;
(*e*) provision of rice milling facilities where required;
(*f*) mixing plants in Mansa, Mongu and Chipata;

(*g*) a bran pelletising plant in Kabompo;
(*h*) storage facilities in Mkushi and Kabompo;
(*i*) general trading buildings and accessories;
(*j*) lorries.

Work on some of these projects will start in 1972 when an amount of K30,000 will be spent. The total capital outlay is K1,406,000 over the five years of the SNDP.

4. Brick Burning

The Steelbuild division of INDECO has studies on hand on two large-scale mechanised factories for the production of 160,000,000 building bricks and related projects.

An amount of K100,000 is allocated for 1972. Total Government contribution to the project will be K698,000.

5. Sawmilling: Zambezi Sawmills

The equipment and communication lines of this mill are very old and in bad repair. In order to ensure continuation of its operation, there is an immediate need to replace certain items of the equipment. This requires a sum of K298,000. The water reticulation system calls for another expenditure of K36,000. Of the total K334,000 an amount of K136,000 will be spent in 1972.

6. Sawmilling: New West Bank Sawmill

With the exhaustion of the timber stock around it and with the excessive wear and tear of the Mulobezi Sawmill and of the Zambezi Sawmill, it has been necessary to look for a replacement to ensure the continuation of the supply of sawn wood products and the employment of about 2,000 persons. A site has been found where timber resources are plentiful on the West Bank of the Zambezi River. It will produce 16,000 cubic metres of sawn products per annum. The capital cost, all of which is requested from budgetary resources, is K2,939,000. The employment will be 800 people. Construction will begin in 1972.

7. Sawmilling: Ndesha Sawmill

This project of a new sawmill in the North-Western Province includes, besides the sawmill complex, access roads, storage facilities, etc. Construction is to begin in 1972. When completed, the mill will have a capacity to produce 150,000 metric tons of rough sawn timber. Total capital cost of the project will be K350,000. The new sawmill is necessary to build since, but for its production, there would be a shortage of mining timbers for the next five to seven years.

8. Extension to Nitrogen Chemicals

To appropriately serve the needs of rural development it is necessary to double the fertiliser producing capacity in the country. During the SNDP the Nitrogen Chemicals at Kafue will have three projects added to it at the following government capital outlays:

	K
(*a*) a compounding plant	330,000
(*b*) ammonia nitrate extension	3,300,000
(*c*) heavy chemicals	3,300,000
Total	K6,930,000

Out of this amount K130,000 will be spent on the commencement of the building of the compounding plant in 1972. The said capital cost required from Government funds represents one-third of the total costs. The other two-thirds will be borrowed from the machinery suppliers.

9. Extension to Kabwe Industrial Fabrics

This company is now producing five million jute bags and 0.9 million metres of hessian cloth per annum. The project will increase this capacity to nine million grain bags and 2.7 million metres of hessian cloth. The project is expected to cost K2.5 million out of which the Government participation in equity has been placed at K2 million.

10. Extension to Kafue Textiles

It is proposed to double the existing capacity of this textile mill to twenty-five million metres of cotton/polyester and rayon fabrics at a total cost of K9 million. The Government equity participation in the project will be K3,575,000, the balance being met from debentures (K2,500,000) and from minority shareholders (K2,925,000).

The expansion will start in 1973 and end in 1975.

11. Glass Project

A glass factory is planned for SNDP at Kapiri Mposhi. The total project cost will be K6.6 million out of which K1,907,000 is needed to finance the construction of the necessary infrastructure (water pipeline, housing, etc.). This latter amount will be financed from the Government budget while the rest will come from INDECO and minority equity as well as loans from machinery suppliers.

Part of the infrastructure will have to be laid down in 1972, when an amount of K644,000 is planned to be spent. The capacity of the plant—in the presently planned first phase—will be 20,000 tons per annum of glass containers.

12. Preparatory Work on Oil Refinery

The oil refinery project is going to be a joint venture between INDECO and the Italian state corporation, ENI. Expenses incurred before the signing of the agreement on consultancy fees and other miscellaneous costs of the initial development of the project were borne by INDECO and now are to be refunded to it by the budget. The sum involved is K311,000, of which K200,000 is to be spent in 1972. The estimated total output when working at full capacity will be 1.1 million metric tons.

The refinery project is in the meantime progressing well in accordance with the plan.

13. Preparatory Work on Pulp and Paper Mill

The UN/FAO advisory team on forest products industries had commissioned outside consultants to prepare a feasibility study on a pulp and paper mill. The study suggests a comparatively small mill, the building of which is recommended to begin in 1977. A fresh look at the market and further consideration given to the project induced FAO to revise the schedule and suggest that the construction should begin in 1974–75, i.e. well within SNDP. The output will be 14,000 cubic metres of particle board and 45,000 tons of industrial paper.

It is estimated that the final technical feasibility and detailed engineering studies and training abroad will cost about K295,000 while site acquisition and preparation, transportation system and power supply and distribution will require an investment of K1,022,000. The total investment cost is estimated at K25,000,000. At the present time only an amount of K1,317,000 is required from Government funds.

Table 8—Ministry of Trade and Industry: Investment Programme, 1972–76
(K thousand)

Project	Province	Agency	1972	1973–76	1972–76
I *Trade Sector:*					
Import/Export Agency	Central	MTI	500	1,490	1,990
Extension to Assize Department Office	Central	MTI	—	15	15
Total I			500	1,505	2,005
II *Manufacturing Sector:*					
1 Rural industries	Various	INDECO/RUCOM Industries	600[1]	3,115	3,715
2 Fish buying and processing	Various	INDECO/RUCOM Holdings/ Lake Fisheries	200[1]	1,195	1,395
3 Grain milling	Various	INDECO/RUCOM Holdings/ INDECO Milling	30[1]	1,376	1,406
4 Brick burning	Various	INDECO/Steelbuild	100[1]	598	698
5 Sawmilling: Zambezi Sawmills	Western	INDECO/RUCOM Holdings	136[1]	198	334
6 Sawmilling: New West Bank Sawmill	Western	INDECO/RUCOM Holdings	—	2,939	2,939
7 Sawmilling: Ndesha Sawmill	North-Western	INDECO/RUCOM Holdings/ Mining Timbers	—	350	350
8 Extension to Nitrogen Chemicals	Central	INDECO/Chemical	130[1]	6,800	6,930
9 Extension to Kabwe Industrial Fabrics	Central	INDECO/Manufacturing Division	—	2,000	2,000
10 Extension to Kafue Textiles	Central	INDECO/Manufacturing Division	—	3,575	3,575
11 Glass Project	Central	INDECO	644	1,263	1,907
12 Preparatory work on Oil Refinery	Copperbelt	INDECO/Chemicals	200	111	311
13 Kenaf Development[2]	—	INDECO/Ministry of Rural Development	6	—	6
14 Preparatory work on Pulp and Paper Mill	Copperbelt	INDECO	—	1,317	1,317
Total II			2,046	24,837	26,888
Grand Total			2,546	26,342	28,888

[1] Loans and Investments.
[2] This project may be transferred to another Ministry.

CHAPTER V

MINISTRY OF POWER, TRANSPORT AND WORKS

The 1972–76 investment programme of the Ministry of Power, Transport and Works is presented here under four sections, namely: Energy; Transport, Telecommunications and Postal Services; Works; Other programmes. Table 9 summarises these programmes.

Table 9—Ministry of Power, Transport and Works: Capital Cost of Investment Programmes, 1972–76
(K million)

	1972	1973–76	Total
I Energy	30.5	168.3	198.8
II Transport, telecommunications and postal services ..	116.2	238.9	355.1
III Works	2.5	10.2	12.7
IV Other programmes	0.2	6.3	6.5
Total	149.4	423.7	573.1

I. Energy

The 1972–76 investment programme in the field of Energy is summarised in Table 10 below:

Table 10—Summary of Investment Programme in the Field of Energy, 1972–76[1]
(K thousand)

	1972	1973–76	Total
On-going Government schemes	9,346	8,550	17,896
New Government schemes	3,320	103,180	106,500
Copperbelt Power Corporation	3,343	5,137	8,480
Broken Hill Development Corporation	20	—	20
Kariba North Bank Corporation	11,000	42,000	53,000
Central Africa Power Corporation	3,500	9,300	12,800
Total	30,529	168,167	198,696

[1] Government financed and joint ventures.

A. ON-GOING GOVERNMENT PROJECTS

Information on these projects is given in Table 11 below:

Table 11—Investment Programme in the Field of Energy: On-going Projects, 1972–76
(K thousand)

Title	1972	1973–76	Total
Kafue Gorge, Stage I	6,000	5,900	11,900
Victoria Falls Power Station	680	—	680
Kafue Town Transmission[1]	200	650	850
Chingola–Solwezi Transmission[1]	1,000	—	1,000
Lusiwasi–Eastern Province Supply	306	—	306
Victoria Falls–Mongu Transmission[1]	900	2,000	2,900
Kariba North Bank	260	—	260
Total	9,346[2]	8,550	17,896

[1] To be covered by Government loans.
[2] Capitalisation of interests is excluded.

B. NEW GOVERNMENT PROJECTS*

1. Kafue Gorge Stage II

The purpose of the project is to develop the potential of the Kafue Hydro-electric Scheme by building a storage dam at Iteshiteshi and installing additional machines. This is essential in order to meet the rising demand for electricity.
Cost: K500,000 in 1972 and K55,500,000 in 1973–76.

2. Lusiwasi Hydro-electric Station, Stage II

The project's objective is the extension of existing power-station and the provision of additional penstock and heightening of Lusiwasi River weir, in order to supply additional CMW of power for Eastern and Central Provinces. It will also supply power to the Tanzam Railway workshops at Mpika.

Cost: K2,800,000, of which K400,000 is for 1972.

3. Luapula Extension and Kalungwishi Hydro-electric Station

Purpose: Reinforcement of existing supplies in Luapula area and inter-connection of rural areas of Mporokoso and Luwingu with existing systems. Extension of available power supplies to rural areas of Luapula and Northern Provinces.

Cost: K6,000,000, of which K500,000 in 1972.

4. Diesel Station in Rural Areas

Proposals have been made to build small diesel stations at the rural townships of Isoka, Chinsali, Lundazi, Feira, Kaoma and Kalabo, which are not connected to any existing transmission networks.

Cost: K3,000,000, of which K100,000 in 1972.

5. National and Regional Control Centres

The purpose is to ensure the control of all major electricity supply, at present controlled by Central African Power Corporation. An independent control of power supply for Zambia will be achieved.

Cost: K2,500,000, of which K50,000 is for 1972.

6. Reinforcements and Extension of Municipality Schemes

Purpose: To reinforce all systems, to replace obsolete equipment, and extend transmission lines to new areas of supply to meet new demands. An essential prerequisite of all further development.

Cost: K20,100,000, of which K1,000,000 is for 1972.

7. Surveys and Investigations

The aim is to investigate potential sources of power in the future, and associated transmission systems.

Cost: K3,800,000 in 1973–76.

8. Training Centres

The project's purpose is to increase the accommodation at the Training Centres at Ndola and Kafue Gorge, and possibly to establish other Training Centres, in order to ensure the training in the electricity supply industry of sufficient Zambians to replace present expatriate staff.

Cost: K1,000,000, of which K200,000 is for 1972.

9. Staff Housing

Purpose: Construction or purchase of staff houses required to take over Local Authority Electricity undertakings.

Cost: K120,000 in 1972 and K1,680,000 in 1973–76.

10. Transmission to Mumbwa and Sanje

Purpose: Electrification of industry and rural areas.

Cost: K1,200,000 in 1973–76.

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* Provisional estimates.

11. Workshops and Office Buildings

Purpose: Construction of offices for Distribution Extensions and Workshops at Kabwe and Livingstone.
Cost: K1,000,000 in 1973–76.

12. Ripple Control

Purpose: Ripple control installation and equipment.
Cost: K200,000 in 1973–76.

13. Rural Electrification

Purpose: Provision for unspecified rural electrification schemes and planned extension and reinforcement of rural systems.
Cost: K3,100,000 in 1973–76.

14. Kasama Hydro-electric Scheme

Purpose: Extension of Kasama Hydro-electric Scheme for electricity supply of rural areas.
Cost: K500,000 in 1973–76.

15. Mpika Transmission Line

Transmission line is required to supply Tanzam railway complex in Mpika with power.
Cost: K3,500,000, of which K450,000 is for 1972.

Table 12—Investment Programme in the Field of Energy: Summary of New Government Projects, 1972–76

(K thousand)

No.	Title	1972	1973–76	Total
1	Kafue Gorge, Stage II	500[1]	55,500	56,000
2	Lusiwasi Hydro-electric	400[1]	2,400	2,800
3	Luapula Extension and Kalungwishi Hydro-electric	500[1]	5,500	6,000
4	Diesel Stations (6)	100	2,900	3,000
5	Control Centre	50[1]	2,450	2,500
6	Municipality schemes	1,000[1]	19,100	20,100
7	Surveys and Investigations	—	3,800	3,800
8	Training Centres	200	800	1,000
9	Staff Housing	120	1,680	1,800
10	Mumbwa Transmission Line	—	1,200	1,200
11	Workshops and Offices	—	1,000	1,000
12	Ripple Control	—	200	200
13	Rural Electrification	—	3,100	3,100
14	Kasama Hydro-electric	—	500	500
15	Mpika–Serenje Transmission Line	450[1]	3,050	3,500
	Total	3,320	103,180	106,500

[1] To be covered by Government loans.

Table 13—Investment in the Field of Energy: Copperbelt Power Corporation, 1972–76

(K thousand)

No.	Title	Location	Capital Cost		
			1972	1973–76	Total
1	220 V Maposa sub-station[1]	Maposa	200	716	916
2	220 V Kansuswa sub-station[1]	Kansuswa	553	2,000	2,553
3	Michelo 22 kV sub-station[1]	Michelo	—	700	700
4	3rd CSS/Luano 220/330 kV[1]	Luano	782	—	782
5	Remote control facilities line[1]	Copperbelt	108	—	108
6	Maposa/Skyways line[1]	Maposa	340	—	340
7	Luano 5th Transformer[1]	Luano	300	90	390
8	Rokana area 66 kV reinforcement[1]	Rokana[2]	150	200	350
9	Baluba 66 kV lines	Baluba	200	181	381
10	Konkola 66 kV lines	Konkola	200	50	250
11	Chambishi 66 kV lines	Chambishi	200	150	350
12	Rokana additional 66 kV station	Rokana	200	350	550
13	Chambishi additional 66 kV station	Chambishi	110	300	410
14	Chililabombwe additional 66 kV station	Chililabombwe	—	400	400
	Total		3,343	5,137	8,480

[1] On-going projects.

Table 14—Investment in the Field of Energy: other Corporations, 1972–76
(K thousand)

No.	Title	Location	Capital Cost		
			1972	1973–76	Total
1	Broken Hill Development Corporation[1]	Kabwe	20	—	20
2	Central African Corporation[1]	National	3,500	9,300	12,800
3	Kariba North Bank	Kariba	11,000	42,000	53,000
	Total		14,520	51,300	65,820

[1] On-going projects.

II. Transport, Telecommunications and Postal Services

A. ROAD TRANSPORT

Investment in this section relates mainly to road construction; investment in road enterprises is only a minor item.

Table 15 gives information about on-going projects. Some on-going projects for which only relatively small amounts have been spent so far are briefly discussed below (1–4).

1. CHINGOLA–SOLWEZI ROAD—COPPERBELT AND NORTH-WESTERN PROVINCES

The purpose of this project is to cope with the increasing density of commercial traffic. When it is completed the North-Western Province's capital will be linked to the line of rail and Lusaka by a fully tarred road. Length of the road: 179 km (Class I, paved).

Capital cost: K3,542,000, of which K2,100,000 is for 1972 and K1,442,000 for the 1973–76 period.

2. CHEMBE FERRY–MANSA AIRPORT—LUAPULA PROVINCE

With the completion of this project the Luapula capital will be better connected to the Copperbelt. Length 98 km (Class I, paved).

Capital cost: K3,000,000, of which K1,750,000 is for 1972 and K1,250,000 for the 1973–76 period.

3. SURVEYS AND INVESTIGATIONS

The aim is to determine type and standard of road construction, costs and time-scheduling of construction.

Cost: K2,500,000 of which K450,000 is for 1972.

4. WEIGHBRIDGES

Vehicle overloading contributes substantially to increasing cost of road maintenance. This can be checked by building weighbridges. The objective is the construction of six such bridges.

Cost: K200,000, of which K60,000 is for 1972.

5. ROAD STRENGTHENING

The traffic on the roads along the line of rail is increasing and therefore it is necessary to strengthen the present road system. This will reduce both the costs of road users and the maintenance costs.

Capital cost: K5,250,000, for the 1973–76 period.

6. KITWE–NDOLA ROAD—COPPERBELT PROVINCE

Traffic on this road is very heavy. Average daily figures are about 3,200 vehicles. It is planned to construct a dual carriageway in order to cope with increasing traffic and to reduce traffic accidents. Length: 95 km (paved, Class I).

Cost: K3,750,000 for the 1973–76 period.

7. CHEMBE BRIDGE—LUAPULA PROVINCE

This bridge will replace the existing pontoon and prevent the costly delays now occurring. This, together with the reconstruction of the Zaire Pedicle road, will provide a smooth link between the Northern and Luapula Provinces and the Copperbelt.

Capital cost: K1,122,000 for the 1973–76 period.

8. Solwezi–Mwinilunga–Ikelenge Road (with connection to Lumwana Mines)—North-Western Province

The road will enable the development of the Lumwana Copper exploration area and will also make possible the connection of the northern regions of the country with Lusaka and the Copperbelt. Length: 398 km (gravel, 32 feet).

Cost: K5,500,000 for the 1973–76 period.

9. Mpika–Kasama Road—Northern Province

Present road connection between Mpika and Kasama is not satisfactory. The project aims at tarring and bringing about general improvement to this road. Length: 214 km (paved).

Cost: K6,400,000 for the 1973–76 period.

10. Kalongola–Kalabo Road—Western Province

Road communication between the Kalabo area and Mongu is at present very poor. Reliable road connection is necessary, owing to the high population density of the area. The planned road will link Kalabo with the provincial capital Mongu, as well as with Sesheke and Livingstone. The road will contribute substantially to opening up development possibilities in the area. Length: 181 km (gravel, Class III, twenty-four feet).

Cost: K3,200,000 for the 1973–76 period.

11. Magoye–Munali Hills Road—Southern Province

The road is inadequate for present traffic. It is necessary to widen it to full width. Length 51.2 km.

Cost: K1,000,000 for the 1973–76 period.

12. Kazungula Pontoon—Southern Province

This pontoon will ensure a much better connection between Zambia and Botswana.

Cost: K200,000 for the 1973–76 period.

13. Nampundwe Mine Road

The project's aim is to improve the standard of the road. Length: 22.7 km (paved).

Cost: K600,000 for the 1973–76 period.

14. Lalafuta Bridge—Western and North-Western Provinces

The original wooden bridge was destroyed by fire and a temporary causeway was constructed. A new bridge is required to open the road to normal traffic.

Cost: K180,000, of which K165,000 is for 1972.

15. Sioma Bridge—Western Province

The project, costing K1,500,000 provides for the construction of a new bridge crossing the Zambezi River at Sioma (Western Province).

16. United Bus Company of Zambia

For a long period the bus services in city and inter-city transport have not been commensurate with the needs. It is envisaged that the number of buses in city transport will more than double during the period of SNDP.

Cost: K10,000,000, of which K1,800,000 is for 1972 and K8,200,000 for the 1973–76 period. This investment will be needed to purchase sufficient new buses for replacement and extension of fleet.

17. Contract Haulage Company

An amount of K5,000,000 will be needed for replacements of vehicles. The amount planned to be spent in 1972 is K1,000,000.

18. Zambia–Tanzania Road Services

An amount of K1,500,000 will be spent for replacement of vehicles during the 1972–74 period. The amount allocated for 1972 is K750,000.

B. RAILWAY TRANSPORT

Fifty per cent of total investment in transport and communications is planned to be allocated to railway transport, mainly due to the construction of the Tanzania–Zambia rail link. Investment in Zambia Railways is also high due to the need of replacing old mobile equipment.

1. Zambia–Tanzania Railway Link—Central and Northern Provinces

This is a key project in Zambian transport and communications as well as in the whole Zambian development. Dependence of Zambian foreign trade on Angola's and Mozambique's port facilities will drastically alter when the new railway link will be in operation in 1975. Transport costs will probably decrease due to substitution of today's road transport from and to Dar-es-Salaam. The Tanzania Zambia Railway is also expected to contribute to foreign exchange savings.

Zambia's share in investment expenditure during the plan period is estimated at K133,000,000.

An amount of K43,000,000 will be spent in 1972. The balance of K90,000,000 will be spent for the project's completion in the 1973–76 period.

Tan-Zam Railway authority

An amount of K150,000 will be provided during 1972 as the country's share in covering the country's expenses of the authority.

2. Zambia Railways

(a) Mobile equipment

Provision will be made for requisition of additional locomotives and rolling stock which are needed for replacements and further expansion of capacity. It is planned to purchase 600 general purpose wagons, 300 open, high-sided bogie wagons, 150 special wagons, 100 covered wagons, 56 passenger coaches and 12 diesel electric locomotives.

Cost: K19,670,000, of which 5,560,000 is for 1972 and balance for the 1973–76 period.

(b) Relays and Replacement Track

Today track is not adequate throughout its length and therefore it is necessary to re-lay the track in 91-lb.rails, so as to ensure safety, higher speeds and lower maintenance cost.

Cost: K10,000,000, of which K2,000,000 is for 1972 and K8,000,000 for 1973–76.

(c) Replacement and additional housing for staff

Cost: K5,000,000, of which K1,000,000 is for 1972 and K4,000,000 for 1973–76.

(d) Replacement of Central Traffic Control Equipment

More adequate central traffic control equipment is required to ensure security and higher speed of trains. An amount of K1,500,000 will be spent during the 1973–76 period for the purchase and installation of such equipment.

(e) Replacements and additions to Plant, Machinery and Equipment

These are necessary in order to ensure normal operation of Zambia Railways. An amount of K1,700,000 will be needed for the five-year period. The amount allocated for 1972 is K500,000.

(f) New Industrial Sidings

Cost: K1,100,000, of which K200,000 in 1972 and K900,000 in the 1973–76 period.

(g) Railways Headquarters Building

Cost: K500,000, of which K100,000 is for 1972.

(h) Miscellaneous Items

Cost: K3,980,000, of which K800,000 is for 1972.

3. Coal Mining Rail Spur—Choma–Masuku

The completion of this line is planned for 1972; the estimated cost is K2,052,000.

4. Kabwe Railway Workshops

An amount of K450,000 will be provided during 1972 for contingencies.

C. AIR TRANSPORT

During the SNDP period the total investment cost of aerodromes and Zambia Airways is estimated at K19,907,000. About two-thirds of this amount will be needed for the development of aerodromes and one-third for the expansion of Zambian Airways.

1. Development of Aerodromes

(a) *Ndola Airport: Civil Engineering/Electrical Works—Copperbelt Province*

This is a carry-over project, the completion of which is planned for the 1972–73 period.

Cost: K1,875,000, of which K1,500,000 is for 1972 and K375,000 for 1973.

(b) *Ndola Airport: Terminal and Ancillary Buildings/Services—Copperbelt Province*

Today's terminal building is not adequate and it is necessary to construct a new terminal building as well as the necessary ancillary buildings.

Cost: K2,588,000, of which K1,990,000 is for 1972 and K598,000 for 1973–76. For the financing of this project an application has been submitted to the African Development Bank.

(c) *Ndola Airport: Additional Buildings/Services—Phase I—Copperbelt Province*

The development of air transport at the Ndola aerodrome will require additional buildings and services.

Capital cost: K1,016,000 for the 1973–76 period.

(d) *Up-grading of Western Province Aerodromes*

Modernisation works and improvements in Sesheke, Senanga, Mongu, Lukulu, Kaoma and Kalabo aerodromes will continue. The estimated capital cost for the five-year period is K343,000. An amount of K43,000 will be spent in 1972.

(e) *Solwezi Aerodrome, Up-grading—North-Western Province*

Solwezi aerodrome is programmed to accept light aircraft scheduled services during 1972. An amount of K279,000 will be needed for the continuation of modernisation programme, which will include provision of radio equipment and navigational aids, security requirements and further improvements to the airfield manoeuvring areas. K154,000 will be spent in 1972.

(f) *Rescue/Fire Equipment*

The purpose is to purchase ambulances and provide new and replace rescue/fire appliances and equipment at aerodromes throughout the country. The principal aerodromes involved are Lusaka International Airport, Livingstone, Ndola, Mporokoso and Mpika.

Cost: K229,000, of which K45,000 is for 1972 and K184,000 for 1973–76.

(g) *Institutional Housing*

The aim is to provide low-cost housing at Lusaka International Airport, Ndola, Livingstone and Kasama airports. This will improve the efficiency of the airports concerned.

Cost: K304,000, of which K100,000 is for 1972 and K204,000 for the 1973–76 period.

(h) *Lusaka International Airport—Central Province*

Lusaka International Airport must be developed on a continuing basis to keep pace with world aviation trends. During the five-year period the following works will be carried out: modifications and additions to the terminal building, extensions to the non-operational area of the control block and freight building, further development of the airfield lighting system, and construction of new guard and stores buildings.

Cost: K1,013,000, of which K397,000 is for 1972 and K616,000 for the 1973–76 period.

(i) *Feira Aerodrome—Central Province*

It is intended to construct a new all-weather aerodrome, geared basically to Zambia Air Force requirements; it will also handle all normal light commercial private movements.

Cost: K300,000 for the 1973–76 period.

(j) *Lilayi Aerodrome—Central Province*

Lilayi aerodrome will be situated some 6.5 miles south of Lusaka. The site has already been fully investigated and the aerodrome design completed. This facility is required to replace Lusaka City Airport, which is impeding the progressive development of the capital city, due to the aviation safeguarding regulations. In addition, the normal circuit at Lusaka City Airport presents certain problems in relation to operations at the Lusaka International Airport, since the two are only some eleven miles apart.

Cost: K680,000 for the 1973–76 period.

(k) *Mpika Aerodrome—Northern Province*

Mpika aerodrome is currently rated as a Category II facility and handles all normal light aircraft movements. With the completion of the Tan-Zam Railway in 1974, the town of Mpika will increase considerably in importance. The upgrading of Mpika aerodrome will include improvements to the manoeuvring surfaces and the provision of air traffic control, telecommunications and Rescue/Fire Service.

Capital cost: K637,000 for the 1973–76 period.

(l) *Mporokoso Aerodrome—Northern Province*

Mporokoso is currently served by a minor aerodrome which has restricted normal development and splits the township into two parts. Operations at this aerodrome have reached the stage where its continued use would constitute a danger, not only to the aircraft concerned, but to personnel and installations on the ground. Feasibility studies have indicated that scheduled services by light twin-engined aircraft be introduced during the period of SNDP to assist in the development of this particular area of the Northern Province. These services should commence in 1975. It is intended, therefore, to develop a new aerodrome to serve Mporokoso capable of handling all normal light aircraft and minor scheduled services.

Capital cost: K538,000 for the 1973–76 period.

(m) *Luangwa South Aerodrome—Eastern Province*

Luangwa aerodrome ties up with the development of the tourist industry in the Luangwa Valley. The existing below-standard aerodrome inside the Luangwa Park is unsuitable for further development. The design of Luangwa South Aerodrome has already been completed.

An amount of K500,000 will be allocated during 1972 for this aerodrome. The estimated total cost is K2,100,000. Financial aid has been requested from the African Development Bank.

(n) *Telecommunications*

The programme of works includes the provision of radio-telephone links between Lusaka and Kinshasa (International commitment), replacement of equipment at Livingstone, new non-directional beacon at Mporokoso and Sesheke and minor telecommunications equipment.

Cost: K223,000, of which K73,000 is for 1972.

(o) *Ndola Airport Aircraft Maintenance Organisation*

The establishment of this organisation is necessary in order to rationalise maintenance and major overhaul work in connection with aircraft operated by government or quasi-government agencies.

Cost: K1,427,000, of which K990,000 is for 1972. The 1972 expenditure will be covered by a budget contribution of K115,000 and a loan, for which a request has been submitted to the African Development Bank.

(p) *Other on-going or new, small projects*

Total Cost: K409,000, of which K143,000 is for 1972.

2. ZAMBIA AIRWAYS

(a) *Aircraft*

Purchase of two new aircraft, that is one DC-8 and one HS 748, is planned, during the SNDP period, to meet demand for transport of passengers on inter-continental, international and domestic routes.

Cost: K4,552,000, of which K1,388,000 is for 1972 and K3,164,000 for the 1973–76 period.

(b) *Staff Housing, Corporation Building, Stations Equipment etc.*

Cost: K1,334,000, of which K850,000 is for 1972 and K484,000 for the 1973–76 period.

D. WATER TRANSPORT

1. Zambezi River Transport

Zambezi River Transport Service operates two sections, water and road transport, which in certain sectors are complementary. During the SNDP period provision will be made for replacement and further extension of transportation means and also for covering other needs.

Cost: K421,000, of which K150,000 in 1972 and K271,000 for the 1973–76 period.

2. Bangweulu and Mweru Lakes Transport Service

This is the only reliable transport service which covers the numerous islands and stations on the lake shore at Bangweulu and the adjacent swamp areas. It is planned to increase the fleet from six to thirteen passenger/cargo launches, as well as to improve shore facilities.

Cost: K367,000, of which K105,000 in 1972 and K262,000 in the 1973–76 period.

3. East African National Shipping Line

It is planned to increase Zambia's share and also buy a second-hand ship.

Cost: K2,315,000, of which K640,000 in 1972 and K1,675,000 in the 1973–76 period. The 1972 expenditure will be covered by a budget contribution of K65,000 and the rest by a foreign loan.

E. TANZANIA–ZAMBIA PIPELINE

The completion of Ndola refinery will require that from 1973 only crude oil should be transported through the pipeline. The capacity of the pipeline will be increased from 350,000 to 1,000,000 metric tons.

Cost: K25,000,000, of which K10,000,000 is for 1972 and K15,000,000 for the 1973–76 period.

F. TELECOMMUNICATIONS AND POSTAL SERVICES

(a) *Telecommunications*

1. Satellite Ground Station

This is a carry-over project which will enable Zambia to have speedier and efficient telecommunications with different parts of the world.

Cost: K2,959,000, of which K440,000 is for 1972 and K2,519,000 for the 1973–76 period.

2. International Communications

To improve international communications an amount of K319,000 for 1972–76 will be needed. Of this, K40,000 is to be spent in 1972.

3. Inter-territorial Communications

Cost: K341,000, of which K30,000 is for 1972 and K311,000 for 1973–76, for increasing capacity of existing routes to Malawi and Rhodesia.

4. National Trunk Network

At present there is adequate trunk bearer capacity only between Lusaka and the Copperbelt, and Lusaka and Chipata. All other existing trunk routes require extensions or replacement to meet the demand. The funds required for this project will be spread over the whole country in the form of major backbone radio relay system, spur routes to minor exchanges, multiplex equipment to provide the telephone and telegraph channels, repeater station buildings and power plants and trunk switching units at the main centres. The total individual works will number several hundreds.

Cost: K14,274,000, of which K1,296,000 is for 1972 and K12,978,000 for the 1973–76 period.

5. District Automatic Exchanges and Local Distribution Network

One of the main features of the telecommunications development Plan is to provide telephones and telegraph services to all district centres and other centres of similar status. This will require the establishment of fifty-four small auto-exchanges together with their associated cable activities and subscribers' investment.

Cost: K4,066,000, of which K85,000 is for 1972 and K3,981,000 for the 1973–76 period.

6. Replacement of Exchanges and Extensions of Local Distribution Networks

Replacement of several old, medium-size telephone exchanges, as well as the extensions of local distribution networks, are envisaged in several places—Chingola, Kabwe, Luanshya, Choma, Mufulira, Kafue, Mazabuka, Monze, Mbala.

Cost: K6,065,000, of which K986,000 is for 1972 and K5,079,000 for 1973–76.

7. Replacement of Provincial Switching Centres and Extensions of Local Distribution Networks

The existing small exchanges at Provincial Centres at Kasama, Chipata, Mansa, Solwezi and Mongu are not suitable. It is necessary to replace them as well as extend the local distribution networks.

Cost: K1,081,000, of which K548,000 is for 1972 and K533,000 for 1973–76.

8. Addition and Extensions to Exchanges and Cable Networks in the Lusaka Area

Lusaka area represents a special case where the urban area is large enough to be served by several exchanges all on a linked numbering scheme. Five exchange areas will be established to cover the whole urban area (Lusaka Central, Ridgeway, Chelston, Chilanga and Airport). The new cable distribution will need to be very extensive owing to the distances of some residential areas from the city centre and the lengths of cables required to link the exchanges to each other.

Cost: K5,585,000, of which K2,412,000 is for 1972 and K3,173,000 for 1973–76.

9. New Exchanges and Extensions to the Cable Networks at Kitwe and Kalulushi

The Kitwe area, which includes Kalulushi, has the present exchanges exhausted and the same is true of the cable reticulation. The main exchange building in Kitwe is full and cannot be extended owing to lack of space on the present site. The new exchanges and extensions to the cable networks will assure the needed services for the forecasted demand.

Cost: K3,634,000, of which K1,528,000 is for 1972 and K2,106,000 for 1973–76.

10. Extensions to Exchanges and Cable Networks at Ndola, Livingstone and Chililabombwe

Present exchanges are not yet exhausted but forecasts show that during the SNDP extensions will become necessary.

Cost: K2,783,000, of which K969,000 is for 1972 and K1,814,000 for 1973–76.

11. Extended Area Service

This project relates to provision of service outside the normal basic rental area of the telephone exchange. The subscribers are usually farmers, missions, isolated stores, etc., and to them a telephone is often vital. To improve the service the General Post Office will purchase special equipment.

Cost: K3,523,000, of which K240,000 is for 1972 and K3,283,000 for 1973–76.

12. Maintenance and Support Services

To ensure dependable telecommunications facilities, it is important to have adequate maintenance and support services. It is planned to purchase more test and workshop equipment, establish a new electronic workshop and repair base, as well as to extend the fleet of vehicles.

Cost: K1,033,000, of which K221,000 is for 1972 and K812,000 for 1973–76.

(*b*) *Postal Services*

1. New Post Offices

Postal development is confined almost entirely to the provision of new post office buildings. These are needed: first, to replace old dilapidated post offices; second, to relieve pressure on existing main post offices; and third, to construct new offices in the remote areas where no services are provided.

Cost: K2,500,000, of which K772,000 is for 1972 and K1,728,000 for 1973–76.

2. Transport Additions

The increase in the number of post offices will naturally increase the number of mail items to be handled and transported. It is planned to purchase the needed mail vans.

Cost: K410,000 of which K60,000 is for 1972 and K350,000 for 1973–76.

(c) *Stores and Servicing Facilities for General Post Office Needs*

The SNDP envisages an annual capital expenditure greater than previously and it follows that there must be an increase in storage facilities not only for new project stores but also to accommodate the greater amount of maintenance stores required by the expanded network.

Cost: K405,000, of which K122,000 is for 1972 and K283,000 for 1973–76.

Table 15—Road Transport: On-going Projects
(K thousand)

No.	Title	Capital Cost		
		1972	1973–76	Total
1	Great North Road	28	—	28
2	Great East Road	1,940	124	2,064
3	Lusaka–Mongu Road	13,500[1]	3,500	17,000
4	Kapiri Mposhi–Ndola Road	150	—	150
5	Livingstone–Sesheke Road	2,752	837	3,589
6	Feira Road	700	76	776
7	Isoka–Lundazi Road	650	50	700
8	Kariba North Bank Access Road	720	103	823
9	Samfya–Serenje Bridge	18	—	18
10	Chingola–Solwezi Road	2,100	1,442	3,542
11	Chembe Ferry–Mansa Airport Road	1,750	1,250	3,000
12	Surveys and Investigations	450	2,050	2,500
13	Weighbridges	60	140	200
	Total	24,818	9,572	34,390

[1] Government budget—K4.5 million and foreign loan—K9 million.

Table 16—Summary of Capital Cost in Transport, Telecommunications and Postal Services
(K million)

No.	Title	Capital Cost		
		1972	1973–76	Total
1	Road transport	28.5	51.1	79.6
2	Railway transport	55.2	123.4	178.6
3	Air transport	8.2	11.7	19.9
4	Water transport	0.9	2.2	3.1
5	Tazama pipeline	10.0	15.0	25.0
6	Telecommunications and postal services	9.7	39.2	48.9
	Total	112.5	242.6	355.1

III. Works

A. MINISTRY HEADQUARTERS

1. KENT BUILDING EXTENSIONS

This project will help to alleviate shortage of office accommodation. It will also reduce Government reliance on renting office space thus releasing additional funds for development projects.

Cost: K80,000 (1972).

2. CLERICAL SCHOOL

Funds are required for the completion of the Clerical School on Burma Road. The school will help solve manpower shortages in the clerical grades.

Cost: K100,000, of which K20,000 in 1972.

3. PURCHASE OF OFFICES—MINOR WORKS

Cost: K55,000, of which K11,000 is for 1972.

4. PROVISION FOR ALTERATIONS

This is for major alterations to offices to meet new requirements in design, office space etc.

Cost: K150,000, of which K30,000 is for 1972.

5. NORFOLK LODGE

This involves the completion of the reconstruction of the Presidential lodge.

Cost: K200,000 for 1972.

6. GPO TRAINING SCHOOL

Cost: K1,000 for 1972.

B. BUILDINGS BRANCH

1. DEPOTS AND STORES

This is for the construction of depots and stores for the Executive Engineer (Maintenance) at various centres. This will lead to the improvement of services provided by the department and increase efficiency.

Cost: K930,000, of which K80,000 is for 1972.

2. RURAL TOWNSHIP WATERBORNE SANITATION SCHEME

This programme involves the replacement of pit-latrine septic tank installations in low cost (high density) housing areas with proper reticulated sewage systems. This will greatly improve the people's living conditions and contribute to better health.

Cost: K3,793,000, of which K668,000 is for 1972.

3. CONNECTIONS TO URBAN PUBLIC SEWERS

This entails connecting existing government buildings and houses to council or Municipal sewers. This will lead to the provision of adequate sewage facilities.

Cost: K440,000, of which K88,000 is for 1972.

4. PROVINCIAL WOOD-WORK SHOPS (MACHINERY)

The programme involves the purchase of machinery for workshops at provincial head quarters. The introduction of such machinery will entail acquisition of valuable skills and improve the quality of work through increased efficiency.

Cost: K155,000, of which K35,000 is for 1972.

5. Multi-storey Common User Office Blocks

Total estimated cost: K4,000,000 (1973–76).

6. Livingstone Airport Water Storage

This is for the replacement of water pumps, a storage tank and reticulation pipes. This will lead to the improvement of facilities at the airport.

Cost: K90,000, of which K80,000 is for 1972.

7. Water Main Extension: Victoria Falls

The project involves the replacement of the existing two-inch water main from Livingstone to Victoria Falls with a six-inch main, and also to provide a 100,000-gallon service reservoir. This will ensure adequate water supply to the falls which are our chief tourist attraction.

Cost: K7,000 for 1972.

8. Sundry Demolitions

This programme involves demolition of old and dilapidated Government property.

Cost: K15,000, of which K3,000 is for 1972.

9. Electrical Connections and Wiring of GRZ Buildings

The programme is for the electrical connections of Government buildings in all Provinces.

Cost: K1,365,000, of which K200,000 is for 1972.

10. New Printing Works—Lusaka

The project is for the construction of the printing works and purchase of printing machines. The works will greatly help to cope with the volume of printing work in Government Ministries and departments.

Cost: K1,300,000, of which K1,031,000 is for 1972.

11. Store-room and Workshop

This is for the construction of a new store-room and workshop and the supply of equipment.

Cost: K10,000 for 1972.

Table 17—Summary of Works' Programme, 1972–76

(Kwacha)

	1972	1973–76	Total
A. Headquarters	342,000	243,000	585,000
B. Buildings Branch	2,202,000	9,903,000	12,105,000
Total	2,544,000	10,146,000	12,690,000

IV. Other Programmes

These are investment programmes for the Mechanical Services Branch, Meteorological Department and Road Traffic Commissioner. Their total estimated cost for the five-year period is K6,532,000, of which K215,000 is for 1972.

1. Mechanical Services Branch

The SNDP programme in respect of the Mechanical Services Branch relates mainly to purchase, repair, maintenance, etc., of GRZ vehicles. The total cost of the programme is estimated at K4,500,000. No provision is made for 1972.

2. Meteorological Department

The Capital Cost of projects for this Department for SNDP is K1,497,000. Provision for expenditure in 1972 is K215,000 on account of office and equipment. The more important projects are described below.

(a) *Housing and Equipment*

The purpose of this project is to bring WMO and other Stations up to manned strength. The Capital Cost is K351,000.

(b) *New Radar and other Equipment*

The projects are to be located at Kasama and Mongu. Capital Cost for SNDP is K258,000 of which K133,000 is for Kasama and K125,000 for Mongu.

(c) *New Climate Stations*

The SNDP makes a provision of K256,000 towards the cost of instrumentation, housing and communications.

(d) *Meteorological Equipment at Luangwa International Airport*

This project is complementary to the project for the construction of an International Airport at this place which is included in the Plan. The cost of the meteorological station at this place is estimated at K150,000.

(e) *New Radar and Other Equipment at Lusaka International Airport and at Mwinilunga and Livingstone*

The present equipment at Lusaka is not adequate to meet the needs of a major international airport. The proposal involves the removal of the existing equipment at Lusaka to Ndola where the equipment is obsolete and to instal a new one at Lusaka. The Capital Cost is K320,000 of which K142,000 is for Lusaka, and K89,000 each for Mwinilunga and Livingstone.

3. Road Traffic Commissioner

The projects in respect of Road Traffic Commissioner's Office for SNDP are estimated to cost K535,000. No provision is made for 1972.

The projects involve extensions to vehicle inspection depots and offices at Ndola at a cost of K60,000, and inspection depots and offices for vehicles and driving test at a cost of K475,000.

CHAPTER VI

MINISTRY OF INFORMATION, BROADCASTING AND TOURISM

SUMMARY

The Ministry's investment programme for the 1972–76 period is summarised below:

Table 18—Investment Programme, 1972–76
(Kwacha)

Projects	1972	1973–76	Total
I. *Information and Broadcasting:*			
Sound and Vision	1,100,000	4,282,970	5,382,970
Zambia Information Services ..	203,000	1,245,030	1,448,030
Zambia News Agency	—	1,000,000	1,000,000
Other (*Zambia Mail*)	50,000	119,000	169,000
Sub-total I	1,353,000	6,647,000	8,000,000
II. *Tourism:*			
Zambia National Tourist Bureau ..	152,000	—	152,000
National Hotels Corporation ..	1,237,000	12,411,000	13,648,000[1]
Sub-total II	1,389,000	12,411,000	13,800,000
Grand Total I+II	2,742,000	19,058,000	21,800,000

[1] A loan of K500,000 from the Zambia National Provident Fund is not included in this amount.

PROJECTS IN DETAIL

A. INFORMATION AND BROADCASTING

The SNDP programme for information and broadcasting aims at providing improved television and broadcasting services and also extending existing facilities over a wider area of the country. The estimated cost of this programme is K8,000,000 for the 1972–76 period. An amount of K1,353,000 is planned to be spent in 1972. The allocation will be as follows:

1. Ministry Headquarters Projects:

(*a*) *Radio and TV Training*

The objective is to provide for training for announcers and broadcasters as well as radio management staff.

Cost: K444,000, of which K20,000 is to be spent in 1972.

(*b*) *Sound and Vision Projects*

Cost: K2,410,970, of which K150,000 is for 1972.

(*c*) *Transmitter Facilities (HQ)*

Cost: K1,500,000, of which K930,000 will be spent in 1972.

(*d*) *Transport for Headquarters*

Cost: K28,000 (1973–76).

(*e*) *Transport for Zambia Broadcasting Services*

Cost: K1,000,000 (1973–76).

2. Zambia Information Service Projects

(*a*) *Campaign Vans and Boats—equipment and general transport*

Cost: K446,030, of which K33,000 will be spent in 1972.

(*b*) *Specialist Vehicles*

The existing fleet needs replacement and further extension to provide effective service in several areas of the country.

Cost: K660,000, of which K170,000 will be spent in 1972.

(c) *Training*

Cost: K134,000 (1973–76).

(d) *Film Production on the History of Zambia*

This will be a vital historical record. Decision was taken two years ago to produce this film. A lot of preliminary work has already been done.

Cost: K208,000 (1973–76).

3. Extensions and Equipment for Zambia Mail (Zambia Publishing Co.)

Cost: K169,000, of which K50,000 will be spent in 1972.

4. Zambia News Agency Projects

(a) *Training of Personnel*

Cost: K100,000 (1973–76).

(b) *Transport*

Cost: K592,000 (1973–76).

(c) *Equipment and Communications*

Cost: K308,000 (1973–76).

This amount will be spent mainly on installation of telex machines and transmitters to link Lusaka with Chipata, Mongu, Kasama and Monze.

B. TOURISM

During the SNDP period it is expected that the number of tourists in the country will increase substantially. The Government tourist investment programme makes provision for more amenities and better accommodation through the construction of hotels and lodges. The bed capacity in hotels and lodges will increase from 2,200 in 1970 to 4,000 in 1976. At the same time, the employment in the tourist industry will increase from 3,000 to 6,000 people. The estimated level of foreign exchange earnings for 1976 is K9.5 million as compared with K2.75 million in 1970. The total cost of the 1972–76 Government programme is estimated at K14,300,000 (this includes a K500,000 loan from Zambia National Provident Fund for the Luangwa Project). An amount of K1,389,000 will be spent in 1972.

1. Projects of the Zambia National Tourist Bureau

(a) *Launches, Lake Kariba/Livingstone and Kasaba*

This is a carry-over project from 1970 to improve access to tourist attractions.

Cost: K45,000 (1972).

(b) *Purchase of Lorries*

Cost: K4,000 (1972).

(c) *Upgrading Road to Maramba Launch Site*

Carry-over project from 1971.

Cost: K11,000 (1972).

(d) *Fishing dinghies*

To be used by tourists—Kasaba and Nkamba Bays.

Cost: K5,000 (1972).

(e) *Wagons*

Ranch self-drive wagons for tourists in Livingstone.

Cost: K6,000 (1972).

(f) *Extension of Teleprinter Facilities, in order to improve communications between parks and Lusaka*

Cost: K3,000 (1972).

(*g*) *Launch, Lochinvar*

To carry tourists between Kafue and Lochinvar.

Cost: K19,000 (1972).

(*h*) *Munda Wanga Gardens*

An amount of K54,000 will be spent in 1972 for various improvements at Munda Wanga Gardens.

2. Projects of National Hotels Corporation

(*a*) *Staff Accommodation and electric work for taking over Mfuwe Lodge*

Cost: K35,000, of which K27,000 will be spent in 1972.

(*b*) *Rest House at Maramba Launch Site*

Cost: K6,000 (1972).

(*c*) *Luangwa Valley Project*

	Cost: SNDP	1972
	K	K
Roads and Bridges	3,833,000	450,000
Lodges	3,899,000	200,000

Roads and Bridges will go to tender in June, 1972. During 1972, architectural work and sitings regarding lodges will also be carried out.

(*d*) *Livingstone Complex*

Extensions, re-furnishing of Chalet Hotel, Livingstone Rest House and completion of Falls Restaurant.

Cost: SNDP—K850,000; 1972—K414,000.

(*e*) *Staff Training* (ZNTB and National Hotels Corporation)

Cost: K550,000 (1973–76).

(*f*) *Provincial Hotels*

Estimated Cost: K3,069,000 (1973–76).

(*g*) *Development of a Travel Agency*

Cost: K876,000 (1973–76).

This amount will be used for the establishment of a State-owned Travel Agency. This Agency will control a large and fast growing turnover in the travel business. It is expected that the gross profits in the first three years of the activity of the Agency will exceed the amount of invested capital.

(*h*) *Zamby Restaurants*

Total SNDP capital allocation is K530,000, of which K140,000 will be spent in 1972. The project provides for the construction of restaurants in the urban centres. This will increase substantially catering facilities for visitors and residents.

CHAPTER VII

MINISTRY OF EDUCATION

The total cost of projects for the education sector is estimated at K114,500,000 for the SNDP. This includes an amount of K24,219,400 for projects of primary education, which is the responsibility of the Provincial administration and is therefore included under Provincial investment programmes. Excluding this, the cost of other educational projects to be executed at the national level is estimated at K90,280,600. The provision for expenditure in 1972 is K18,517,900. These programmes are described in the main SNDP volume.

The table below summarises the allocations for 1972 and SNDP under the various sectors of education.

Table 19—Ministry of Education: 1972–76 Investment Programmes

(Kwacha)

	1972	1973–76	Total
Secondary	5,848,000	32,032,600	37,880,600
Teacher Training	1,325,000	3,699,200	5,024,200
Technical Education and Vocational Training[1]	8,485,000	21,640,000	30,125,000
University	2,463,900	11,374,900	13,838,800
Educational Services	396,000	3,016,000	3,412,000
Total	18,517,900	71,762,700	90,280,600

[1] Including Headquarters.

The main projects under each sector are described below:

Table 20—Expenditure Under World Bank Education Programme

(Kwacha)

Provinces	1972	1973–76	Total
Central:			
New	—	324,900	324,900
Extensions	—	1,136,700	1,136,700
Northern:			
New	—	1,158,100	1,158,100
Extensions	241,000	1,942,100	2,183,100
Copperbelt:			
New	226,900	576,900	803,800
Extensions	736,800	1,910,100	2,646,900
North-Western:			
New	—	—	—
Extensions	66,800	611,600	678,400
Southern:			
New	—	—	—
Extensions	66,000	1,177,400	1,243,400
Eastern:			
New	—	1,222,000	1,222,000
Extensions	—	1,024,100	1,024,100
Luapula:			
New	—	784,000	784,000
Extensions	—	1,407,200	1,407,200
Western:			
New	—	—	—
Extensions	—	1,084,900	1,084,900
Total World Bank Project—New and Extensions	1,368,900	13,973,900	15,342,800

A. ZAMBIA WORLD BANK EDUCATION PROJECT

I. Secondary Education

1. New Schools

Nine new schools in various provinces will be opened. The capital cost of the programme is K4,292,800, of which the expenditure for 1972 is estimated at K226,900.

2. Extensions to Existing Schools

The total cost of extensions to fifty-six existing schools under the World Bank Project amounts to K11,050,000 of which K1,142,000 is the estimated expenditure for 1972.

3. Furniture, Equipment, Consultants' Fees and Ancillary Works

The total capital cost of these programmes is estimated at K11,199,000, of which the estimated expenditure for 1972 is K2,160,000. Generous assistance towards the payment of consultants' fees is being given by the Norwegian Agency for International Development.

B. SECONDARY EDUCATION—OTHER SCHEMES

1. New Schools

The SNDP programme provides for opening of new schools at Feira, Chongwe, Chama, and Pemba at an estimated cost of K4,428,000; of this, the expenditure estimated for 1972 is K1,460,000.

An additional amount of K3,930,000 is provided for opening of three more new schools. These projects will be executed late in the Plan period, for opening in 1977. The centres where the schools are to be opened are yet to be determined.

2. Kabwe Demonstration School

A capital provision of K135,000 is made for extensions to this school at Teachers' College, Kabwe, of which the estimated expenditure for 1972 is K80,000.

3. Copperbelt Demonstration School

This junior secondary school will be built at the new Copperbelt Teachers' College late in the Plan period at an estimated cost of K235,000.

4. Extensions to Secondary Schools

A provision of K425,000 is made for extensions to Government-run secondary schools in several places. Another provision of K345,000 is made for Aided Schools.

5. Services and Improvement

The provision of capital expenditure for this purpose is K410,000 of which the expenditure estimated for 1972 is K20,000. The programme includes supply of water and electricity as well as repairs and maintenance.

6. Agriculture and Other Equipment

The project involves supply of teaching material and equipment for the diversification of the curriculum. Total cost for SNDP is K100,000 and for 1972 K40,000.

7. Teachers' Housing

The programme is for provision of staff housing for teachers at Ndola, Kitwe and Lusaka. The cost is estimated at K880,000, of which the estimated expenditure for 1972 is K320,000.

II. Teacher Training

The projects in respect of teacher training included in SNDP account for an estimated expenditure of K5,024,200, of which K1,325,000 is the provision for 1972.

A. ZAMBIA WORLD BANK EDUCATION PROJECT

1. New Colleges and Extensions

The SNDP proposes the opening of Copperbelt Teachers' College for secondary teacher training and extensions to the Kabwe and Kitwe Colleges and the National In-Service Training College. The provision is K1,101,400, of which the estimated expenditure for 1972 is K369,500.

2. Furniture, Equipment and Professional Services

The provision for expenditure on furniture, equipment and professional services under the World Bank Project is K331,800, out of which the provision for 1972 is K211,500.

3. Ancillary Works at Teachers' Colleges

The estimated expenditure during SNDP, on account of provision of ancillary works at Colleges in the Project—staff housing, additional students' residences, teaching accommodation, etc.—is K270,000, of which the estimated expenditure for 1972 is K230,000.

B. OTHER PROJECTS

1. New Primary Teachers' Training Colleges

The SNDP proposes opening of new colleges at Mansa, Solwezi, and Mongu (for men) and the total estimated cost is K2,621,000. Estimated expenditure for 1972 is K400,000.

2. Additions to Existing Colleges

An Agricultural Science Unit and an assembly hall will be built at Chipata and Kasama Teacher Training Colleges. The estimated capital cost is K160,000 for SNDP and K40,000 for 1972.

3. David Livingstone College

Extensions will enable enrolment to be expanded to 300. Capital cost is K100,000, of which K5,000 is the estimated expenditure for 1972.

4. Staff Housing

The SNDP makes a provision of K55,000 for expenditure to complete the housing programme at Malcolm Moffat Teacher Training College at Serenje. The estimated expenditure for 1972 is K20,000.

5. Improvements and Services

A provision of K385,000 is made under this head to meet expenditure on major repairs and improvements to teachers' training colleges and for water, electricity and sewerage works. The estimate of expenditure for 1972 is K50,000.

III. Educational Services

The total provision for educational services in the SNDP is K3,412,000, of which K396,000 is expected to be incurred during 1972.

1. Zambia Library Service

This accounts for K632,000, of which K110,000 is the estimated expenditure for 1972. The programme involves completion of existing work on libraries at Kasama, Mongu, Solwezi and Mansa, at a cost of K95,000, opening of new Regional Libraries at Kabwe and Ndola at a cost of K80,000 for SNDP and K6,000 for 1972. There is also a provision of K432,000 for opening new branch libraries during 1972–76 at fifteen centres. Finally, a provision of K25,000 for SNDP and K8,000 for 1972 is also made for expenditure on purchase of vehicles for transport of books.

2. Adult Education Centres

The programme envisages new buildings for existing centres at Livingstone and Chipata and new centres at Kasama, Mongu, Kabwe, Mansa and Solwezi. The total cost for these is estimated at K300,000 and K750,000 respectively for SNDP. For 1972 a provision of K8,000 is made for planning purposes. The new centres will be occupied in 1974–76.

3. Correspondence Course Unit

The SNDP makes a provision of K30,000 for purchase of equipment required for expansion of this Unit at Luanshya as well as for replacement of existing printing machines.

4. Adult Education Equipment

Cost: SNDP, K80,000; 1972, K18,000.

5. Curriculum Development Centre

This project also involves purchase of equipment and materials required for research and publication of new curricula and teaching materials as well as minor capital works. The capital cost is estimated at K25,000 for SNDP and K5,000 for 1972.

6. Educational Broadcasting and Television Services

The project is for purchase of various equipment—radios, studio equipment, film recorders, etc.—for operation and expansion of sound and television broadcasting and the Audio-Visual Aids Library.

Estimated cost: K300,000 for SNDP and K60,000 for 1972.

7. Educational Services Centre

This project, to be located at Lusaka, envisages the setting-up of a new professional and service institution to accommodate the Curriculum Development Centre, Correspondence Course Unit, Audio-Visual Aids Library, Educational Broadcasting and Television Headquarters and Zambia Library Service Headquarters. Capital cost is estimated at K500,000 which will be incurred late in the Plan period.

8. Education for Handicapped

This is a continuous programme in respect of buildings, services and equipment at schools for handicapped children. Total SNDP Capital provision is K875,000 and provision for 1972 is K195,000.

IV. Technical Education and Vocational Training

The capital cost of projects in respect of technical education and vocational training amounts to K29,600,000, of which it is estimated that K8,029,000 will be incurred during 1972. Of the total allocation for the SNDP, technological training claims K15,968,000, trades training K6,727,000, applied arts and commerce K2,597,000, technical teacher training K545,000, staff housing K3,603,000 and grants to Nkumbi International College K160,000.

1. Zambia Institute of Technology—Location, Kitwe

The project is for completion of phases I and II of the Institute. Capital cost for SNDP is estimated at K11,660,000, comprising an estimated expenditure of K3,000,000 for 1972 and of K8,660,000 for 1973–76.

2. Northern Technical College

The capital cost of this programme, located at Ndola, including extensions under the World Bank Extension project, is estimated at K2,581,000, of which the expenditure estimated for 1972 is K501,000.

3. Zambia Aeronautical Services Training Institute

The capital cost of this project is K1,727,000 and the expenditure estimated for 1972 is K620,000.

4. Trades Training

The SNDP makes a capital provision of K6,727,000 for trades training. The expenditure will be incurred at the Institutes at Livingstone, Kabwe, Mansa, Kasama, Luanshya and Lusaka. The estimated provision for 1972 is K2,636,000. The provisions for SNDP and 1972 include amounts of K385,000 and K50,000 on account of a matching grant to a voluntary agency institution in Choma.

5. Extensions to Evelyn Hone and Kitwe College of Applied Arts and Commerce

The total SNDP capital provision for this purpose is K2,597,000, of which K542,000 represents the estimated outlay for 1972.

6. Technical Teachers Training College

The project is for starting a new institute for the training of technical and vocational instructors and practical subject teachers. The project will be located at Kitwe. Capital cost is K545,000, of which K180,000 is the estimated outlay for 1972.

7. Nkumbi International College at Mkushi

The capital cost of counterpart funds to be provided by Government to supplement international assistance to refugee education is K160,000, of which the provision for 1972 is K50,000.

8. Staff Housing

A capital provision for K3,603,000 is made in SNDP for provision of housing for staff of the Commission for Technical Education and Vocational Training. The estimated expenditure for 1972 is K500,000.

V. University of Zambia

This is a continuous programme. The programme for the SNDP lays particular emphasis on development in respect of the School of Engineering (stage II) School of Education (stage II), School of Agricultural Sciences, administration block, sports and recreational facilities, extension to student residences, dining/kitchen, and staff housing. Total capital cost is K13,838,000 of which K2,463,900 is the provision for 1972 and K11,374,900 is the provision for 1973-76.

CHAPTER VIII

MINISTRY OF HEALTH

In the expansion and further development of health services, during the period of SNDP, the Government's objective is to achieve a reasonable balance between curative and preventive work, by placing the right emphasis on the latter. The capacity in hospital beds and health centre facilities will be considerably expanded, while at the same time high priority will be given to training of personnel and to general health education.

The Ministry's investment programme for 1972–76, costing K30,000,000, is composed of on-going projects and new schemes, as described in the following paragraphs:*

A. ON-GOING PROJECTS

Continuing projects are presented in Table 21

Table 21—On-going Projects, 1972–76
(K thousand)

No.	Title	Location (Provinces)	Capital Cost		
			1972	1973–76	Total
1	Teaching Hospital, Planning Fees	Lusaka (Central)	360	405	765
2	Teaching Hospital, Plan 2	Lusaka (Central)	1,000	—	1,000
3	Teaching Hospital, Plan 3	Lusaka (Central)	575	425	1,000
4	Teaching Hospital, Plan 4	Lusaka (Central)	100	12	112
5	Teaching Hospital, Plan 5	Lusaka (Central)	300	710	1,010
6	Teaching Hospital, Plan 6	Lusaka (Central)	120	245	365
7	Teaching Hospital, Plan 7	Lusaka (Central)	—	810	810
8	Teaching Hospital, Plan 8	Lusaka (Central)	—	500	500
9	Teaching Hospital, Plan 9	Lusaka (Central)	—	1,000	1,000
10	Teaching Hospital, Plan 10	Lusaka (Central)	—	470	470
11	Teaching Hospital Service	Lusaka (Central)	190	—	190
12	Teaching Hospital Equipment	Lusaka (Central)	600	700	1,300
13	Teaching Hospital CSSD	Lusaka (Central)	100	90	190
14	New Maternity Wards	Lusaka (Central)	29	—	29
15	RN Training School	Lusaka (Central)	100	317	417
16	Medical Stores	Lusaka (Central)	200	1,016	1,216
17	Flying Doctor Service	Ndola (Copperbelt)	259	255	514
18	Ndola Hospital, Plan 2	Ndola (Copperbelt)	750	910	1,660
19	Mbala Hospital	Mbala (Central)	350	—	350
20	Kasama Hospital	Kasama (Northern)	350	—	350
21	Chipata Hospital	Chipata (Northern)	500	1,664	2,164
22	Solwezi Hospital	Solwezi (North-Western)	500	917	1,417
23	Kalabo Hospital	Kalabo (Western)	70	50	120
24	Petauke Hospital	Petauke (Eastern)	50	237	287
25	Chainama Hospital	Chainama Hills (Central)	35	—	35
26	Ndola Nurses' Home	Ndola (Copperbelt)	30	100	130
27	Kitwe Nurses' Home	Kitwe (Copperbelt)	30	—	30
28	ZEN Training School	Livingstone (Southern)	8	—	8
29	Ambulances	All Provinces	15	135	150
30	Kariba North Hospital	Kariba (Southern)	50	50	100
31	Country and Urban Clinics	All Provinces	75	6	81
32	Minor Works	All Provinces	84	16	100
33	Medical Assistants' Training School	Lusaka (Central)	100	335	435
34	Health Dem. Zone	Kabwe (Central)	150	570	720
35	Kitwe Hospital: Extensions	Kitwe (Copperbelt)	30	—	30
36	Malaria Central Laboratory	Lusaka (Central)	25	—	25
37	Reference Health Centre		25	—	25
38	Highbridge House: Extensions	Kabwe (Central)	15	—	15
	Total		7,175	11,945	19,120

B. NEW SCHEMES

I. Hospitals

1. Mumbwa District Hospital—Central Province

The purpose is to extend the hospital in order to provide an operating theatre, OPD, two fifteen-bed additional wards, an X-ray department, an administration block, etc.

The capital cost is estimated at K100,000 for 1973–76 and the recurrent cost at K8,000 for 1974–76.

See also Provincial Programmes.

2. Mbereshi Hospital—Luapula Province

A sound water scheme will be carried out because the water problem has hindered the efficient running of the hospital. Improvements to the existing buildings are also required.

Capital cost: K50,000 for 1973–76.

3. Kabelenge Leprosarium—Luapula Province

The objective is to improve existing buildings.

Capital cost: K20,000 for 1973–76.

4. Kawambwa Hospital—Luapula Province

Purpose: As in (1) above.

Capital cost: K100,000 for 1973–76.

Recurrent cost: K8,000 for 1974–76.

5. Mpika Hospital—Northern Province

Purpose: As in (1) above.

Capital cost: K500,000 for 1973–76.

Recurrent cost: K10,000 for 1974–76.

6. Isoka Hospital—Northern Province

Purpose: As in (1) above, except that a maternity ward will be required instead of an operating theatre which is already available. Improvement to the existing buildings will also be made.

Capital cost: K14,000 for 1973–76.

7. Luwingu Hospital—Northern Province

Purpose: As in (1) above.

Capital cost: K100,000 for 1973–76.

8. Chinsali Hospital—Northern Province

Purpose: As in (1) above.

Capital cost: K100,000 for 1973–76.

9. Lukupa Hospital—Northern Province

Purpose: General improvement of patients' accommodation.

Capital cost: K20,000 for 1973–76.

10. Mwinilunga Hospital—North-Western Province

Purpose: As in (1) above.

Capital cost: K100,000 for 1973–76.

Recurrent cost: K8,000 for 1974–76.

11. Namwala Hospital—Southern Province

Purpose: As in (1) above.

Capital cost: K100,000 for 1973–76.

Recurrent cost: K8,000 for 1974–76.

12. Kaoma Hospital—Western Province

Purpose: As in (1) above.

Capital cost: K100,000 for 1973–76.

Recurrent cost: K8,000 for 1974–76.

13. Seshеke Hospital—Western Province

Purpose: As in (1) above.

Capital cost: K100,000 for 1973–76.

Recurrent cost: K8,000 for 1974–76.

14. Kafue District Hospital—Central Province

The objective is to establish a new 28-bed hospital capable of further expansion to 56 or 90 beds. Due to population increase, it is very difficult to bring all cases to Lusaka. Many industries have been developed and health facilities should be provided in the vicinity.

Capital cost: K694,000 for 1973–76.

Recurrent cost: K143,000 for 1973–76.

15. Mporokoso Hospital—Northern Province

Initially the new hospital will have an operating theatre, OPD, administration block, two 15-bed wards, etc. The hospital will be fully developed later on as funds become available.

Capital cost: K250,000, of which K90,000 is for 1972.

Recurrent cost: K472,000 for 1973–76.

16. Mkushi Hospital—Central Province

Purpose: As for (15) above.

Capital cost: K300,000 for 1973–76.

Recurrent cost: K484,000 for 1973–76.

17. Kabompo Hospital—North-Western Province

Purpose: As in (15) above.

Capital cost: K275,000, of which K90,000 is for 1972.

Recurrent cost: K472,000 for 1973–76.

18. Choma Hospital—Southern Province

The objective is to build initially an operating theatre, 3 × 30-bed wards, administration block, etc.

Capital cost: K750,000 for 1973–76.

Recurrent cost: K1,385,000 for 1973–76.

19. Mongu Hospital—Western Province

The purpose is to build an OPD, theatre, laundry, bed wards, administration block, etc.

Capital cost: K800,000 for 1973–76.

Recurrent cost: K1,385,000 for 1973–76.

20. Hospital Engineers' Workshop—Lusaka, Central Province

The aim is to provide modern facilities to serve the hospital equipment at the University Teaching Hospital. Up-to-date equipment is being brought in from abroad.

Capital cost: K65,000 for 1973–76.

Recurrent cost: K109,000 for 1973–76.

21. Radiotherapy Unit—Lusaka, Central Province

This unit will be attached to the University Teaching Hospital, Lusaka. It will provide superficial and deep X-ray therapy for cancer patients, which is not available in Zambia at present.

The radiotherapy service will supply beam therapy with Cobalt or Caesium, contact X-ray apparatus and Caesium tubes. The building will consist of storage facilities for the radioactive materials, treatment areas, ward accommodation for approximately thirty beds and a section for research purposes.

The total estimated cost is in the region of K600,000 (1973–76).

II. Training Institutions*—Staff Housing

1. Registered Nurses' Training School—Copperbelt Province

The purpose is to establish a school capacity of 150 trainees, which will gradually reduce dependence on expatriate nursing personnel.

Capital cost: K754,000 for 1973–76.

Recurrent cost: K423,000 for same period.

2. Zambia Enrolled Nurses' Training Schools

Locations: Chipata—Eastern Province, Kasama—Northern Province, Mansa—Luapula Province.

The project's objective is to establish three schools, one in each of the above locations, for a total capacity of 180 trainee enrolled nurses. Many hospitals at present are understaffed and new hospitals cannot be opened without this type of nurses.

Capital cost: K726,000 for 1973–76.

Recurrent cost: K495,000 for same period.

3. Zambia Enrolled Midwifery School—Kabwe, Central Province

Provision will be made to increase the capacity from 35 to 120 trainees per year. This will meet the hospitals' need in a satisfactory way. The Rural Health Centres also need the services of midwives.

Capital cost: K320,000 for 1973–76.

Recurrent cost: K185,000 for same period.

4. Laboratory and X-ray Assistants' Training Schools

Locations: Kitwe, Copperbelt Province for the laboratory school and Ndola, Copperbelt Province for the X-ray school.

The existing training facilities are inadequate. It is proposed to open the above schools with an intake of twenty trainees a year at each school.

Capital cost: K144,000 for 1973–76.

Recurrent cost: K56,000 for same period.

5. Housing for Hospital Staff (A)

Locations: Lusaka—Central Province, Ndola—Copperbelt Province.

The aim is to ease the problem of housing accommodation for hospital staff which is becoming an obstacle for the recruitment of specialists.

Capital cost: K1,800,000 for 1973–76.

6. Housing Accommodation for Hospital Staff (B)

Purpose: As in (5) above.

Capital cost: K2,347,000 for 1973–76.

Table 22—Ministry of Health—Summary of Capital Cost of New Schemes
(Kwacha)

	1972	1973–76	1972–76
Hospital extensions/New hospitals . .	180,000	4,958,000	5,138,000
Training Institutions and Staff housing . .	—	6,091,000	6,091,000
Total (New Schemes)	180,000	11,049,000	11,229,000

* The expansion of Medical Assistants' Training School is included in Section A; this expansion is needed to increase the intake to 350 trainees per year, which is necessary for the establishment of new health centres.

CHAPTER IX

MINISTRY OF PROVINCIAL AND LOCAL GOVERNMENT AND CULTURE

The programme of this Ministry comprises mainly of loans to local authorities for housing and other purposes, and capital grants. The total cost of the programme for SNDP is estimated at K106,700,000, of which K76,700,000 will be met from budgetary resources and K30,000,000 from Provident Fund balances and foreign loans. The cost of programmes to be executed in 1972 is K18,000,000—K13,500,000 from budgetary resources and K4,500,000 from Provident Fund balances and foreign loans. Individual projects to be financed from budgetary resources are outlined below:

1. Low-cost Housing Loans to Local Authorities

The total cost of this project for SNDP is placed at K28,000,000. The amount to be spent in 1972 is estimated to be K4.2 million, to be distributed as follows:

	K
Central Province	1,086,000
Western Province	117,000
Eastern Province	147,000
Luapula Province	135,000
Northern Province	240,000
Southern Province	534,000
Copperbelt Province	1,896,000
North-Western Province	45,000
Total	K4,200,000

2. Participants' Loans: Site and Service

The purpose is to provide loans to participants, of building materials for self-help housing. The estimated cost for SNDP is K4,000,000, of which K500,000 is for 1972.

3. General Loans: Major Urban Authorities

The total amount of loans to be provided to major local authorities for SNDP is K13,000,000. The purpose is to finance water supply and general schemes in Lusaka, Kafue, Kabwe, Livingstone and Copperbelt. The amount of loans to be made in 1972 is K3,180,000.

4. General Loans: Townships

The amount of loans to finance schemes of townships will be K6,500,000, of which K1,812,000 is the provision for 1972; the latter amount will be distributed as follows:

	K
Western Province	50,000
Eastern Province	205,000
Luapula Province	480,000
Northern Province	581,000
Southern Province	496,000
Total	K1,812,000

5. Grants to Local Authorities

The cost of capital grants to be given to various local authorities for various schemes is K18,000,000, of which K2,808,000 is the provision for 1972. Province-wise distribution of the amount for 1972 is as follows:

	K
Central Province	1,122,000
Western Province	12,000
Eastern Province	21,000
Luapula Province	21,000
Northern Province	34,000
Southern Province	392,000
Copperbelt Province	1,126,000
North-Western Province	10,000
Total	K2,808,000

6. Rural Water Supply

The cost of this project for SNDP is K6,000,000 and the provision for 1972 is K500,000.

7. Civil Servants' Housing

Cost: K500,000; 1972, K500,000.

8. Access Road to Kafue Gorge Dam

An amount of K700,000 will be provided during the 1973–76 period for the construction of an access road to Kafue Gorge Dam. The road, which will branch off from Great North Road at Shimabala, will be the most direct road for tourists from Lusaka.

CHAPTER X

PROGRAMMES OF OTHER MINISTRIES AND GOVERNMENT DEPARTMENTS

Ministry of Finance

The programme of the Ministry of Finance covers the Headquarters, the Department of Customs and Excise and the Directorate of Supplies. The total capital cost for SNDP is estimated at K2,585,000, of which expenditure in 1972 is estimated at K635,000 and in 1973–76 K1,950,000. The details of projects for individual departments are described below.

I. Headquarters

The total cost of projects to be executed by the Headquarters of the Ministry of Finance is K929,000, of which K525,000 is for new projects and K404,000 for continuing projects. The provision for expenditure in 1972 is K315,000.

1. Mobilisation of Personal Savings in Zambia

The need for mobilising personal savings is urgent. The scheme envisages introduction of thrift education, national savings scheme, voluntary savings scheme and conversion of the Post Office Savings Bank into a dynamic National Savings and Credit Bank. The cost of the project for the SNDP period is estimated at K500,000, which is proposed to be incurred during 1973–76.

2. State Insurance Corporation

The capital of this corporation is K1,000,000, of which Government has already subscribed K595,500, leaving K404,500 to be subscribed during 1972–76. Of this amount, a provision of K310,000 is made for 1972.

In addition to the above, a provision of K25,000 is also made for minor capital items. Against this, K5,000 will be spent in 1972.

3. Crop Survey Project

Cost: K85,000; 1972 K85,000.

II. Customs Department

The total cost of projects for the SNDP to be executed by this Department adds up to K1,317,000.

These relate to construction of Customs Posts, strengthening of arrangements for checking and detection of illegal imports and exports into and from Zambia and improvement of staff housing. The provision for 1972 is K160,000. Details are given below:

1. Kafue Customs House and State Warehouse

The cost of this project for completion of the new Customs House and Warehouse at Kafue is estimated at K21,800. Provision for expenditure in 1972 is K21,000.

2. New State Warehouse at Lusaka International Airport

The purpose is to construct a new State Warehouse. Cost for 1972–76 is K30,000. A provision of K30,000 is made for 1972.

3. New Kabwe Customs House and State Warehouse

Cost: K53,000 (1973–76).

4. Ndola Customs House and State Warehouse

The present accommodation, which is rented, is considered to be inadequate and hence the need for erecting a new and spacious building for the office. The capital cost of the project is estimated at K223,500. No provision for expenditure is made during 1972.

5. Staff Houses and Office Accommodation—Livingstone/Mpulungu

This is to provide new, and improve existing, facilities. The cost is K430,000 (1973–76). Of this amount, K330,000 is for Livingstone and K100,000 for Mpulungu.

6. Staff Accommodation for Nakonde Mobile Police Unit

The total cost is estimated at K24,500. No provision for 1972.

7. Vehicle Examination Bays—Mwami, Chirundu, Kasumbalesa

The construction of these bays is considered necessary to provide for proper examination facilities in these places. The total capital cost is estimated at K72,000, out of which K48,000 will be spent in 1972.

8. Water Reticulation

The capital cost of the project to be located at Lumi Border Post for the purpose of providing improved water facilities, is placed at K4,000 to be incurred during 1973–76.

9. Tunduma Customs Post

This is a carry-over project from 1971 and involves payment of retention fees. Cost is estimated at K15,000, for which provision is made in the 1972 capital budget.

10. Wireless Installations

An amount of K8,000 will be needed in 1972 for the completion of the department's network of radiocommunications.

11. Chirundu Customs Post

This is also a carry-over project involving the construction of staff houses at this post. The capital cost is estimated at K8,000, of which provision for 1972 is K3,000.

12. General Safety Equipment

This is another carry-over project with an estimated capital cost of K3,000 for SNDP.

13. Water Reticulation Scheme at Muliashi and Sakania Border Posts

Cost: K24,000 for 1972.

14. Mpulungu Office

Cost: K6,000 for 1972.

15. Institutional Mess

At present it has been found impossible to provide a number of customs houses with their required staff owing to non-availability of housing accommodation. In order to overcome this difficulty as well as to facilitate transfer of customs officers of specified grades, it is proposed to construct Institutional Messes. These will be located at Livingstone, Lusaka, Chelston, Ndola and Kitwe. The total capital cost of these projects is estimated at K150,000. The expenditure is proposed to be incurred during 1973–76.

16. Additional Office at Chipata

There is urgent need for the building of an additional office at Chipata. The capital cost of the proposed office, estimated to be K6,000, will be incurred during 1973–76.

17. Repairs and Maintenance

A provision of K9,700 is made for maintenance and repairs, water supplies at all offices, security fencing at Lusaka customs house and for a garage for Government vehicles at Lusaka. An amount of K2,000 is provided for 1972.

18. Establishment of new Customs Post and Improvement of Existing Posts

With the increase in traffic through the customs control at various points, it has become necessary to strengthen the existing posts by providing additional staff and accommodation or establishment of new posts. This is necessary in order to maintain efficient supervision and control. The total amount to be provided during the 1973–76 period is K228,000.

III. Director of Supplies

An amount of K254,000 will be allocated to the Director of Supplies, K75,000 of this amount will be spent in 1972 on carry-over projects. The details are as follows:

(1) *Lusaka depot shelving*—K22,000 is required to provide increased storage facilities. This amount is planned to be spent in 1973–76.

(2) *Livingstone depot extension—Cost:* K25,000 (1972).

(3) *Lusaka depot extension—Cost:* K35,000, of which K25,000 will be spent in 1972.

(4) *Emergency Fuel Tanks* (*Mansa, Kasama, Chipata*)—*Cost:* K172,000, of which K25,000 is for 1972.

Ministry of Labour and Social Services

I. Department of Social Welfare

The following capital estimates are provided for the Department, prior to its integration with Community Development during 1972, when the estimates for the two departments will be combined. The vital social welfare functions in the new, integrated Department are concerned with preventive and personal problem-solving services by working with and through communities and their leaders, having direct contact with individuals and families only where problems and personal malfunctioning are severe. The main tasks are in assisting in the identification and removal of common sources of personal problems, in encouraging and assisting communities to care for their own needy and disadvantaged members, such as the aged, handicapped, destitute or delinquent, to be particularly active in child care and to provide statutory supervision of juveniles and adults on probation and on licence from correctional institutions.

Total capital estimates amount to K757,000 for the Plan period. Of this sum, K50,000 will be spent in 1972.

1. Mazabuka Approved School

The school being now the only one in the country, the provision is for an extra dormitory for twenty-five boys, an assembly hall and three staff houses.

Expenditure: SNDP K141,000; 1972 K41,000.

2. Kitwe Girls' Probation Hostel

There is at present no residential provision of any kind for girls. It is, therefore, necessary to build a probation hostel to provide essential supervision in a residential setting for girls on probation who have no home or cannot remain there. Expenditure will start in 1973.

Expenditure: SNDP K25,000; 1972 nil.

3. Kitwe Remand Home

Juvenile delinquents before the courts on the Copperbelt are at present remanded to prison for lack of any other facility. A Remand Home to accommodate thirty will, therefore, be established. Expenditure will start in 1973.

Expenditure: SNDP K25,000; 1972 nil.

4. Places of Safety

Further Places of Safety are needed to provide temporary shelter for the distressed and deprived, often children and mothers. It is intended to establish six new centres at Lusaka, Ndola, Mufulira, Kasama, Mansa and Mongu. While financial provision is made for six, it may be possible for the Local Authorities to establish those in Lusaka, Ndola and Mufulira in accordance with the new policy. Expenditure will start on the rural centres in 1974.

Expenditure: SNDP K150,000; 1972 nil.

5. Grants to Voluntary Organisations

The Department supports voluntary organisations whose work supplements the services of Government, including orphanages run by Missions, by grants for capital projects as well as by making *per capita* payments on a daily basis.

Expenditure: SNDP K125,000; 1972 K9,000.

6. Zambia Council for the Handicapped

A statutory body, the Council received considerable financial support from Government in the past. It has also received administrative assistance in exercising better financial control after sustaining substantial losses during the FNDP period. Government support during SNDP is therefore more cautious, and only K291,000 is being provided for specific projects as against more than K1.6 million requested. All projects will be carefully evaluated to assist the Council in a reorientation away from closed uneconomic institutions mainly for the blind, towards community-based training and assistance aimed at maximum independence and self-reliance for all handicapped.

(a) *Area Board Offices*

It is planned to open four new offices at Chipata, Kasama, Solwezi and Mongu, to decentralise and intensify the Council's direct services to the handicapped. The provision includes housing for the Provincial Board Secretary, office equipment and a Land-Rover at each Area Board, at a cost of K24,000 each. Expenditure will commence in 1973.

Expenditure: SNDP K96,000; 1972 nil.

(b) *Kangonga Training Centre, Ndola*

It is intended to expand the training facilities at this centre by the provision of additional accommodation for trainees and instructors, and the purchase of equipment.

Expenditure: SNDP K60,000; 1972 nil.

(c) *Mimosa Farm Settlement, near Lusaka*

The poultry unit will be expanded by the installation of a new brooder and growing house, equipment and stock. It is also intended to increase the employment and revenue capacity of the present 24-acre farm by the purchase of a neighbouring 54 acres for K25,000.

Expenditure: SNDP K30,000.

(d) *Kambowa Farm Settlement, Ndola*

It is planned to establish a new piggery and poultry unit to provide additional employment and revenue, and building material, equipment and stock will need to be purchased.

Expenditure: SNDP K5,000; 1972 nil.

(e) *Resettlement of Handicapped*

A sum of K100,000 has been set aside for the resettlement of handicapped persons in self-supporting employment groups. The precise nature of such schemes has still to be determined, and a guiding principle will be the retention of the handicapped within normal communities wherever possible, rather than creating isolated communities solely for the handicapped.

Expenditure: SNDP K100,000; 1972 nil.

II. Department of Labour

Through its labour offices and employment exchanges, the Department provides essential services to the public and industry by processing suitable candidates to fill notified vacancies, by enforcing regulations and mediating in disputes. It also does aptitude testing on a national scale for secondary school leavers and others through its Educational and Occupational Assessment Unit. With the further employment opportunities to be created in the SNDP period, new and expanded facilities will need to be provided in all Provinces.

1. Ndola Employment Exchange and Labour Office

A total of K290,000 is provided for labour offices and employment exchanges, of which K30,000 is required in 1972 to complete the employment exchange at Ndola which was started in 1971.

2. Solwezi Employment Exchange and Labour Office

A new employment exchange and labour office will be built in Solwezi, the first in North-Western Province, to be manned by nine officers.

Expenditure: SNDP K20,000; 1972 nil.

3. Employment Exchange and Labour Offices—Livingstone, Lusaka and Kitwe

Four offices are now totally inadequate and will be replaced by new employment exchanges and labour offices. These are to be built at Livingstone, Lusaka and Kitwe at a cost of K60,000 each, and at Mongu for K20,000.

Expenditure: SNDP K200,000; 1972 nil.

4. Employment Exchange and Labour Offices—Mansa, Kasama, Chipata and Mufulira

Extensions will be built to four existing labour offices and employment exchanges at Mansa, Kasama, Chipata and Mufulira, by the addition of two more offices each.

Expenditure: SNDP K40,000; 1972 nil.

III. Sports Directorate

1. Lusaka Independence Stadium

While many of the Directorate's projects fall under Provincial votes, the Independence Stadium in Lusaka is a national project. Most of the required expenditure for its upgrading will have to come from external sources. The sum of K190,000 is provided for improvements to the grandstand and other facilities, of which K40,000 is provided specifically for replacing the present faulty lighting.

Expenditure: SNDP K190,000; 1972 nil.

Ministry of Home Affairs

The SNDP projects/programmes for the Ministry of Home Affairs cover those in respect of National Archives, Immigration Department and Prisons. The total capital cost of all these projects adds up to K3,380,000, of which K350,000 is the estimated expenditure in 1972.

A. NATIONAL ARCHIVES

The projects for National Archives are estimated to cost K160,000, of which K60,000 will be incurred in 1972 and the balance of K100,000 in 1973–76. There are two projects, as described below:

1. Lusaka Archives

The object is to provide extension to offices and library in the existing building. The total cost is K110,000. Estimated expenditure in 1972 is K60,000 and in 1973–76 K50,000.

2. Ndola Archives

This is for the construction of an additional records room, and provision of additional toilet facilities. The capital cost is K50,000 to be incurred in 1973–76.

B. IMMIGRATION DEPARTMENT

The total capital cost of projects for the Department is estimated at K1,109,549, of which K195,549 is on account of on-going projects and K914,000 on account of new projects. Capital expenditure for 1972 is estimated at K195,549 and for 1973–76 K914,000. The new projects are as follows:

1. Imusho Immigration Office

The cost of this project, for construction of offices and staff houses at the new post is K128,000, which is to be incurred during 1973–76.

2. Solwezi Regional Immigration Office

This is for construction of provincial Headquarters and staff houses. The cost is K152,691 to be incurred during 1973–76.

3. Chiswa Immigration Post

This is a new immigration post. The cost of the construction of offices and staff houses is K70,740, for the 1973–76 period.

4. Chipungu Immigration Post

This is also a new immigration post. The project is for construction of office and staff houses. The cost is K79,614 for the 1973–76 period.

5. Kaputa Post

Construction of office and staff houses for a new immigration post. The cost is K72,306 for the 1973–76 period.

6. Mongu Regional Immigration Headquarters

The cost of this project for construction of Provincial office block and staff houses is K161,911 to be incurred during 1973–76 period.

7. Mapalala Post

Construction of immigration station, offices and staff houses. The cost is K70,092 to be incurred during the 1973–76 period.

8. Office Blocks and Staff Houses at Isusoshi and Katanda Posts

The cost is K159,082, which will be incurred during the closing years of the SNDP. K88,990 will be required for the Isusoshi post and K70,092 for the Katanda post.

9. Sumbu Immigration Post

The project is for construction of five staff houses at this post.

Cost: K19,564 (1973–76).

The details of on-going projects are as follows:

		K
1.	Feira Immigration Post	6,549
2.	Livingstone Immigration Post	1,000
3.	Kariba Immigration Post	5,000
4.	Immigration office, Kariba Dam Wall ..	14,000
5.	Nyala Immigration Post	45,000
6.	Mwami Immigration Post	10,000
7.	Lundazi Immigration Post	60,000
8.	Jumbe Bridge Immigration Post	5,000
9.	Nchelenge Immigration Post	4,000
10.	Mpulungu Immigration Post	45,000
	Total	K195,549

C. PRISONS DEPARTMENT

The capital cost of projects for the Prisons Department is estimated at K2,110,451 to be distributed as follows:

1. New Lusaka Prison at Kafue and Agricultural Development

The total cost of this project is K844,000, of which K594,000 is for new Prisons and K250,000 for agricultural development. No provision is made for 1972.

2. Prison Improvements

This is to construct new dormitories and provide general improvements to buildings of all prisons throughout the country. The total cost is estimated at K17,000, of which K5,000 is for 1972 and K12,000 for 1973–76.

3. Prison Workshops

The project is to provide double-size standard workshops at Kamfinsa, Kansenji, Livingstone and Lusaka prisons.

Cost: K17,000, of which K5,000 for 1972 and K12,000 for 1973–76.

4. Prison Farms

This is for providing tractors, cultivators, vehicles, etc., at Chipata, Kabwe, Kamfinsa, Kasama, Katombora, Mumbwa and Kasempa prisons. Total cost K17,000. Expenditure for 1972 K5,000 and for 1973–76 K12,000.

5. Prison Minor Works

The estimated capital cost of these works, including new water-borne sanitation, bathrooms, fencing and lighting is K17,000—K5,000 for 1972 and K12,000 for 1973–76.

6. Prison Staff Housing

This is for providing staff houses to prison officers at all prisons (about 200 in all). Capital cost is K415,451 of which an estimated K40,000 will be incurred during 1972 and the balance of K375,451 during 1973–76.

7. Kansenji Prison

The purpose of the project is to build a new prison at Kansenji, replacing the Bwana Mukumbwa Prison, as well as staff houses. Capital cost of this for SNDP is estimated at K135,000 of which K35,000 is for 1972.

8. KATOMBORA REFORMATORY

The cost of effecting general improvement for existing buildings for this Reformator K8,000 and is proposed to be incurred during 1973–76.

9. NEW REMAND PRISON AT KITWE

The existing building at Kitwe is considered to be below security standards. Hence proposed to construct a new building together with staff houses. Capital cost is K344,000 wi will, however, be incurred during 1973–76.

10. NEW PRISON AT LUANSHYA

It is proposed to construct a new prison at Luanshya together with staff houses. Cap cost is K296,000 and is expected to be incurred during 1973–76.

Zambia Police

The estimated cost of the police investment programme for the 1972–76 period K14,500,000 of which K1,508,000 is for 1972. The total is distributed between on-going proje and new projects as shown in Tables 23 and 24.

Table 23—Zambia Police 1972–76 Programme: On-going Projects
(Kwacha)

No.		SNDP	1972	1973–76
1.	Minor Capital items	53,900	12,000	41,900
2.	Fencing at Police Camps	32,000	8,000	24,000
3.	Roads, Drains, Sewerage, etc.	49,000	17,000	32,000
4.	Staff Housing	6,000	6,000	—
5.	Portable Buildings	9,600	9,600	—
6.	Training	43,500	43,500	—
7.	Wireless Network	950,000	400,000	550,000
8.	Police Airways	240,000	240,000	—
9.	Para-military Camps, Lilayi	192,000	192,000	—
10.	Lilayi Water Reticulation	101,500	101,500	—
11.	Feira Camp Extension	197,000	186,000	11,000
12.	Stuart Park, Lusaka	700	700	—
13.	Makeni Station and Camp	6,000	6,000	—
14.	Sikanze Camp, Lusaka	18,000	18,000	—
15.	Chirundu Camp Extensions	15,400	15,400	—
16.	Namwala Camp Extensions	1,000	1,000	—
17.	Isoka Station and Camp	466,000	1,000	465,000
18.	Northern Division Police Station and Camps	4,300	4,300	—
19.	Wireless Workshop, Kasama	20,000	17,000	3,000
20.	Katima Mulilo Camp Extension	181,400	1,000	180,400
21.	Shangombo Police Station and Camps	903,000	1,000	902,000
22.	Sikongo Police Station and Camps	1,086,700	1,000	1,085,700
23.	Vubwe Station and Camp	143,000	134,000	9,000
24.	Nyimba Station and Camp	99,000	91,000	8,000
25.	Jimbe Bridge Station and Camp	254,000	1,000	253,000
	Total	5,073,000	1,508,000	3,565,000

Table 24—Zambia Police 1972–76 Programme: New Projects
(Kwacha)

No.		SNDP	1972	1973–76
1.	Para-military Battalion	5,000,000	—	5,000,000
2.	Lusaka East Police Station and Camp	313,000	—	313,000
3.	Masaiti Police Station and Camp	176,000	—	176,000
4.	Kapiri Mposhi Police Station and Camp	176,000	—	176,000
5.	Sikanzi Camp Extensions, Lusaka	422,000	—	422,000
6.	Senanga Police Station and Camp	321,000	—	321,000
7.	Kafue Industrial Police Station and Camp	325,000	—	325,000
8.	Mkushi Police Station and Camp	285,000	—	285,000
9.	Mpika Police Station and Camp	311,000	—	311,000
10.	Para-military Vehicles	192,000	—	192,000
11.	Maamba Police Station and Camp	211,000	—	211,000
12.	Kabompo Police Station and Camp	311,000	—	311,000
13.	Sakania Police Station and Camp	176,000	—	176,000
14.	Konkola Police Station and Camp	176,000	—	176,000
15.	Mumbwa Police Station and Camp	285,000	—	185,000
16.	Nchelenje Police Station and Camp	330,000	—	330,000
17.	Chama Police Station and Camp	211,000	—	211,000
19.	Wireless Workshop, Mongu	30,000	—	30,000
20.	Chongwe Police Station and Camp	176,000	—	176,000
	Total	9,427,000	—	9,427,000

Ministry of Development Planning and National Guidance

The total capital cost of new projects/programmes for this Ministry is K10,800,000 of which K800,000 is the estimated expenditure for 1972. The projects are as follows:

1. National Council for Scientific Research

The purpose of this programme is to improve research facilities and to provide necessary training and equipment. The cost of the projects is K4,500,000, of which K250,000 is the estimated expenditure for 1972 and K4,250,000 for 1973–76.

2. President's Citizenship College

Estimated cost of the project: K1,000,000, of which K250,000 is for 1972 and K750,000 for 1973–76.

3. Technical and Professional Advice

Total cost: K5,300,000, of which K300,000 is for 1972.

Ministry of Foreign Affairs

The total capital outlay on projects for SNDP to be executed by this Ministry is estimated at K2,402,000. A capital expenditure of K480,000 is envisaged in 1972 for continuing projects.

1. Headquarters for Ministry at Lusaka

The cost of this project is estimated at K500,000. No provision is made for 1972.

2. Purchase of Chancery and Ambassador's Residence in Cairo

Cost: K100,000 (1973–76).

3. Construction of Chancery and High Commissioner's Residence at Lilongwe (Malawi)

Cost: K200,000 (1973–76).

4. Purchase of Plot in Lagos (Nigeria) for Building Chancery

Cost: K200,000 (1973–76).

5. Purchase of Ambassador's Residence in Washington, Rome and other centres

Cost: K642,000 (1973–76).

6. Additions to existing Chancery at Addis Ababa

Cost: K100,000 (1973–76).

7. Construction of Chancery at Dar-es-Salaam

Cost: K380,000, of which K200,000 in 1972.

8. Gaborone Housing and Retention Fees on Chancery

Cost: K40,000 (1972).

9. Radio Links

Cost: K240,000 (1972).

Ministry of Legal Affairs

The capital cost of programmes to be executed by this Ministry during the SNDP is estimated at K1,700,000. This expenditure is required for the construction of a Court of Appeal at Lusaka. The need for this has arisen following the decision of the Government to set up a separate Court of Appeal with its own Judge President and two more Justices of Appeal. The expenditure will be incurred during 1973–76.

Personnel Division

The capital cost of the projects of this Division for SNDP is estimated at K3,000,000. The projects comprise major extensions to the National Institute of Public Administration—assembly blocks, etc., at a cost of K2,500,000 and certain carry-over projects at a cost of K500,000. The provision for capital expenditure in 1972 is K25,000, only in respect of carry-over projects.

State House

The capital cost of the projects for State House is estimated at K500,000 for SNDP. Of this, K50,000 is the estimated expenditure (on carry-over projects) for 1972. These include extensions and additions to State Guest House at Lusaka, improvements to grounds and improvements to housekeeper's house also at Lusaka. The new projects, which account for the balance of K450,000 and which are expected to be implemented during 1973–76, comprise mainly improvements and additions to state guest houses at other centres, such as Kitwe, as well as provision of further improvements to guest house at Lusaka.

National Assembly

The capital cost of projects to be executed for National Assembly is estimated at K1,500,000 for the SNDP. The expenditure is proposed to be incurred during 1973–76.

1. National Assembly Housing

The purpose of the project is to construct a lodge befitting the status of the Speaker as well as to afford him appropriate facilities for entertaining visitors. The capital cost of the project is estimated to be K400,000 during the SNDP period.

2. Staff Housing

According to a Cabinet Office directive the National Assembly is required to build its own institutional housing for its staff. A few staff houses have already been constructed at Olympia Park. The capital cost of the project is estimated at about K1,233,000. A provision of K660,000 is made for expenditure during SNDP.

3. Office Accommodation

There is at present acute shortage of accommodation for both Members of Parliament as well as staff and this has caused administrative problems. The project includes construction of ten additional offices and a new committee room. Provision made in the SNDP: K200,000 (1973–76).

4. Library Extension

The object is to provide extensions to the existing library which is found to be inadequate. The project involves provision of more books and shelves and to provide space for a reading room which does not exist at present. The capital cost of the project is estimated to be K170,000 (1973–76).

5. Miscellaneous

There are also a number of minor projects, such as stores and workshops, parking bays, etc., which will cost about K70,000 (1973–76).

AUDIT DEPARTMENT

1. Institutional Office Block

An amount of K200,000 will be provided during the 1973–76 period for the construction of an institutional office block for the Auditor-General.

CHAPTER XI

PROVINCIAL PROGRAMMES

Planning and implementation of provincial investment programmes is the responsibility of Provincial Administrations. These programmes, which supplement the regional investment programmes of the Central Ministries, constitute a decisive step towards decentralised decision-making and comprehensive regional planning. They are expected also to provide a realistic basis for the country's development efforts to reduce the income gap between rural and urban society. Table 25 summarises the provincial programmes for the year 1972 and the period 1972–76. The total amount allocated to the eight provinces is K80.9 million for the five-year period. It can be seen that outlying provinces take a comparatively greater share than Copperbelt and Central Provinces. The sectoral breakdown reveals the importance of the sector of education, to which thirty per cent of the total amount is allocated. The sectors of rural development and transport follow with percentages of 26.6 and 22.3 respectively.

The summary table is followed by tables which give detailed information for each province.

Table 25—Summary of Provincial Investment Programmes: 1972–76

(K thousand)

Sector Departments	Luapula		Northern		Eastern		Southern		Central		Copperbelt		North-Western		Western		Total		%
	1972	1972–76	1972	1972–76	1972	1972–76	1972	1972–76	1972	1972–76	1972	1972–76	1972	1972–76	1972	1972–76	1972	1972–76	1972–76
Judiciary	30	500	25	280	10	200	15	120	22	150	27	150	20	100	10	330	159	1,830	2.2
Provincial and Local Government ..	100	600	100	232	100	750	95	630	90	860	53	200	110	593	70	670	718	4,535	5.8
Information, etc. ..	5	75	40	100	—	80	—	64	5	94	15	46	—	77	5	110	70	646	0.7
Health	130	910	153	1,090	97	1,020	165	990	95	703	60	380	105	666	100	880	905	6,639	8.2
Education	373	2,040	576	3,560	604	3,295	262	1,900	671	4,589	766	5,413	244	1,451	359	2,023	3,855	24,271	30.0
Transport	415	2,095	163	2,080	244	1,900	454	2,970	256	950	178	1,390	436	2,647	720	4,000	2,866	18,032	22.3
Lands and Natural Resources	153	910	51	300	37	220	86	580	46	219	26	95	34	183	75	688	508	3,195	3.9
Rural Development ..	462	3,275	387	3,058	518	3,153	523	3,280	215	1,850	235	1,440	362	2,123	461	3,326	3,162	21,505	26.6
Social Services ..	—	50	—	50	—	50	—	—	—	—	—	—	—	50	—	50	—	250	0.3
Total	1,668	10,455	1,495	10,750	1,610	10,668	1,600	10,534	1,400	9,415	1,360	9,114	1,311	7,890	1,800	12,077	12,243	80,903	100
% 1972–76 ..		12.9		13.3		13.2		13.0		11.6		11.3		9.8		14.9			100

Table 26—Luapula Province: 1972–76 Investment Programme
(Kwacha)

Sector/Department	Projects	Location	1972	1973–76	1972–76	Remarks
I. Judiciary			30,000	470,000	500,000	
	1. Local Courts and Staff Housing	All Districts	30,000	470,000	500,000	Construction and extensions to local courts and houses
II. Provincial and Local Government			100,000	500,000	600,000	
	2. Grants to Local Authorities	All Districts	100,000	500,000	600,000	Grants for small self-help projects
III. Information, Broadcasting and Tourism			5,000	70,000	75,000	
	3. Rest Houses	Mansa	5,000	70,000	75,000	
IV. Health			130,000	780,000	910,000	
	4. Staff Accommodation	All Districts	40,000	230,000	270,000	Accommodation for rural health staff
	5. Rural Health Centres	All Districts	50,000	276,000	326,000	Implementation of Stages I and II of health centres
	6. Grants to Missions	All Districts	40,000	274,000	314,000	Funds for extensions to mission hospitals and health centres
V. Education			373,000	1,667,000	2,040,000	
	7. New Primary Schools	All Districts	289,700	1,084,800	1,374,500	
	8. Replacement of Classrooms	All Districts	48,300	227,200	275,500	Continuation of replacement programme
	9. Practical Rooms	All Districts	25,000	155,000	180,000	Construction of rooms for teaching practical skills in primary schools
	10. Emergencies, Repairs and Other Services	All Districts	10,000	200,000	210,000	
VI. Transport			415,000	1,680,000	2,095,000	
	11. Office Accommodation	All Districts	105,000	7,000	112,000	
	12. Roads	All Districts	250,000	1,565,000	1,815,000	Development of feeder roads
	13. Workshops and maintenance camps	All Districts	56,000	92,000	148,000	
	14. Minor Works	All Districts	4,000	16,000	20,000	
VII. Lands and Natural Resources			153,000	757,000	910,000	
	15. Forestry	All Districts	43,000	37,000	80,000	Forestry extension services, forest protection and management, rural enterprises
	16. Fisheries Staff Housing, Station Improvement	Mwaba, Samfya	20,000	188,000	208,000	Development of Bangweulu Swamp fisheries and construction of sub-station at Chisi Island and accommodation for staff
	17. Fish Culture	Mwaba, Samfya	20,000	40,000	60,000	
	18. Fisheries Extension and Training	Samfya, Kawambwa, Mwense, Nchelenge	40,000	267,000	307,000	
	19. Plantation and Depots	Samfya, Kawambwa	30,000	170,000	200,000	
	20. Bee-keeping	Kawambwa	—	55,000	55,000	Encouragement of bee-keeping as a village industry

Table 38—continued

Sector/Department	Projects	Location	1972	1973–76	1973–76	Remarks
VIII. Rural Development			462,000	2,813,000	3,275,000	
	21. Agricultural Development:					
	(a) Sheep Scheme	Maralal	(N.A.)	(N.A.)	25,000	
	(b) Cattle Scheme	Narok	(N.A.)	(N.A.)	70,000	
	(c) Citrus Scheme	Meru, Machakos, etc.	(N.A.)	(N.A.)	68,000	
	(d) Maize Scheme	Meru	(N.A.)	(N.A.)	90,000	
	(e) Groundnut Scheme	Kwale	(N.A.)	(N.A.)	25,000	
	(f) Rice Scheme	Throughout Province	(N.A.)	(N.A.)	135,000	
	(g) Sugar-cane Scheme	Mumias	(N.A.)	(N.A.)	130,000	
	(h) Oilpalm Scheme	Nyakeiengo	(N.A.)	(N.A.)	30,000	
	(i) Cotton Scheme	Nyakeiengo	(N.A.)	(N.A.)	80,000	
	(j) Farmers' Training	Bamfya, Mbeshashi	(N.A.)	(N.A.)	180,000	
	(k) Extension of Maros Research Station	Maros	(N.A.)	(N.A.)	154,000	
	(l) Staff Housing	Throughout Province	(N.A.)	(N.A.)	20,000	
	(m) Feeder Roads	Throughout Province	(N.A.)	(N.A.)	7,000	
			312,000	693,000	1,004,000	
	22. Marketing	Throughout Province	15,000	99,000	114,000	SHDP Programme comprises staff accommodation (K34,000) and storage shed (K80,000)
	23. Water Supplies, Canals, etc.	Throughout Province	125,000	1,949,000	2,074,000	
	24. Veterinary Services	Throughout Province	10,000	72,000	82,000	
		—	—	50,000	50,000	
IX. Labour and Social Services	25. Sports Stadium	Maros	—	50,000	50,000	
Total I–IX			1,660,000	8,787,000	10,455,000	

Table 27—Northern Province: 1972–76 Investment Programme

(Kwacha)

Sector/Department	Projects	Location	1972	1973–76	1972–76	Remarks
I. Judiciary			25,000	255,000	280,000	
	1. Local Courts and Staff Housing	All Districts	25,000	255,000	280,000	Provision and improvement of local courts and staff housing
II. Provincial and Local Government and Culture			100,000	132,000	232,000	
	2. Grants to Local Authorities	Kasama, Mbala, Mpika, Mporokoso, Kaputa, Boma	100,000	132,000	232,000	Funds for self-help projects such as buildings, office blocks, store rooms, etc.
III. Information, Broadcasting and Tourism			60,000	60,000	100,000	
	3. Kasama Rest House	Kasama	40,000	10,000	50,000	Construction and/or extension of rest houses in these places
	4. Mbala Rest House	Mbala	—	50,000	50,000	
IV. Health			153,000	937,000	1,090,000	
	5. Staff Accommodation	All Districts	22,000	131,000	153,000	Accommodation for staff of medical institutions
	6. Grants to Missions	All Districts	90,000	330,000	420,000	Funds to assist extension to mission hospitals and health centres
	7. Rural Health Centres	All Districts	41,000	476,000	517,000	Extension of medical facilities to areas where none exist at present. Proposed to implement seven Stage I and three Stage II schemes
V. Education			576,000	2,904,000	3,560,000	
	8. New Primary Schools	All Districts	449,800	2,142,500	2,592,300	Provision of 21 new Grade I and 140 new Grade II classes
	9. Replacement of Classes	All Districts	70,900	380,800	451,700	
	10. Practical Rooms	All Districts	45,300	260,700	306,000	Construction of places for teaching practical skills in primary schools
	11. Emergency Services and Repairs	All Districts	10,000	200,000	210,000	
VI. Transport			163,000	1,917,000	2,080,000	
	12. Feeder Roads	All Districts	84,000	181,500	265,500	Feeder roads to connect camps, offices and staff houses
	13. Mbesuma–Isoka Road		—	400,000	400,000	Upgrading of road to Class II standard
	14. Senga Hill–Mporokoso Road		—	450,000	450,000	Reconstruction of this road will shorten the distance between Mbala and Mporokoso and open up farming areas
	15. Kalungu River Bridge		—	150,000	150,000	Replacement of wooden bridge by a permanent structure
	16. Chambishi Bridge		—	400,000	400,000	Replacement of pontoon by a bridge
	17. Depots, Workshops and Office Accommodation	All Districts	45,000	178,500	223,500	Improving existing depots facilities, construction of stores, expansion of MSB facilities, workshops for maintenance of hospital plant and equipment, etc.
	18. Minor Works and Road Maintenance Camps		34,000	157,000	191,000	Security fencing, furniture, staff housing, works offices and store building

Table 27—*continued*

Sector/Department	Projects	Location	1972	1973–76	1972–76	Remarks
VII. Lands and Natural Resources			51,000	249,000	300,000	
	19. Bee-keeping	Luwingu and Mporokoso ..	—	30,000	30,000	Production of honey for local consumption
	20. Timber Plantation Management	Kasama / Mbala	15,000	95,000	110,000	The purpose is to increase production of poles and timber for supply to local industries
	21. Forest Extension, Management Enterprises, Staff Housing ..	All Districts	26,000	124,000	150,000	Production, management, marketing of forest plantations, etc.
	22. Fisheries Extension and Development	All Districts	10,000	—	10,000	
VIII. Rural Development ..			387,000	2,671,000	3,058,000	
	23. Veterinary Services and Tsetse Control	All Districts		436,000	436,000	
	24. Pilot and Production Projects and Settlement Schemes ..	All Districts	47,000	482,000	529,000	The purpose is to improve agricultural production. Provision for 1972 includes K30,000 for farm settlement, K8,000 for vegetable production scheme and K9,000 for agricultural production schemes
	25. Extension, Training and Research	All Districts	180,000	126,000	306,000	Expansion of Mbala training centre and establishment of new centres in other districts
	26. Water Supplies	All Districts	110,000	681,000	791,000	Co-operative, village and other water supply
	27. Marketing	All Districts	—	160,000	160,000	The purpose is to improve storage and establish rural buying depots and cold room for fruits and vegetables
	28. Intensive Village Development	All Districts	50,000	529,000	579,000	
	29. Other Miscellaneous Schemes	All Districts	—	257,000	257,000	Mixed farming, poultry development, etc.
IX. Labour and Social Services			—	50,000	50,000	
	30. Sports Stadium	Kasama	—	50,000	50,000	Improved facilities for sports in the province
Total I–IX ..			1,495,000	9,255,000	10,750,000	

Table 28—Eastern Province: 1972–76 Investment Programme

(Kwacha)

Sector/Department	Projects	Location	1972	1973–76	1972–76	Remarks
I. Judiciary			10,000	190,000	200,000	
	1. Local Courts and Staff Housing	All Districts	10,000	190,000	200,000	Provision of local courts in rural areas. Programme is for construction of nineteen courts together with staff accommodation
II. Provincial and Local Government			100,000	650,000	750,000	
	2. Grants to Local Authorities ..	All Districts	100,000	650,000	750,000	Funds for small self-help schemes
III. Information, Broadcasting and Tourism			—	80,000	80,000	
	3. Rest Houses	Chipata, Petauke, Katete, Nyimba	—	80,000	80,000	Extension to existing rest houses in these places
IV. Health			97,000	923,000	1,020,000	
	4. Rural Health Centres	All Districts	42,000	475,000	517,000	Improvement and extension to rural health centres
	5. Staff Accommodation	All Districts	25,000	308,000	333,000	Accommodation for staff of medical institutions
	6. Grants to Missions	All Districts	30,000	140,000	170,000	Assistance for extensions to mission hospitals and health centres
V. Education			603,600	2,691,400	3,295,000	
	7. New Primary Schools	All Districts	493,700	1,946,800	2,440,500	Twenty-six new Grade III and twelve new Grade V classes
	8. Replacements	All Districts	65,300	321,200	386,500	Continuation of replacement programme
	9. Practical Rooms	All Districts	34,600	223,400	258,000	Construction of rooms for teaching practical skills in primary schools
	10. Emergency Repairs and Other Services	All Districts	10,000	200,000	210,000	
VI. Transport			244,000	1,656,000	1,900,000	
	11. Development of Feeder Roads	All Districts	180,000	1,210,000	1,390,000	Upgrading of Petauke Road (from T4 to Petauke Boma), Katete Road (from T4 to Boma) to bitumen standard, Msolo–Chipata Road to Class II standard and tarring of roads at provincial headquarters
	12. Workshops	Mfuwe and Chadiza	35,000	55,000	90,000	
	13. Kabwe–Chadiza	Chadiza	—	235,000	235,000	Completion of this road construction
	14. Office Accommodation ..	Chipata	25,000	140,000	165,000	
	15. Minor Works		4,000	16,000	20,000	
VII. Lands and Natural Resources			37,000	183,000	220,000	
	16. Plantation and Forestry ..	All Districts	37,000	151,000	188,000	
	17. Minor Works	All Districts	—	32,000	32,000	

Table 28—*continued*

Sector/Department	Projects	Location	1972	1973–76	1972–76	Remarks
VIII. Rural Development ..			518,400	2,634,600	3,153,000	
	18. Community Development ..	All Districts	37,000	187,000	224,000	Intensive village development
	19. Catchment Conservation Programme	All Districts	140,000	180,000	320,000	Provision of infrastructure to ensure water conservation
	20. Water Supplies	All Districts	226,400	442,600	669,000	Construction of wells, boreholes and dams for increasing supply of drinking water
	21. Extension and Training ..	Chipata, Nyimba	95,000	696,000	791,000	Farmers' training centres
	22. Regional Research	Katete, Masumba	20,000	77,000	97,000	
	23. Veterinary Services and Tsetse Control	All Districts	—	200,000	200,000	
	24. Marketing	All Districts	—	180,000	180,000	Storage sheds for fertilisers and other products
	25. Staff Housing	All Districts	—	534,000	534,000	
	26. Other Minor Projects	All Districts	—	138,000	138,000	Cotton scheme farm and border settlement
IX. Labour and Social Services ..			—	50,000	50,000	
	27. Sports Stadium	Chipata	—	50,000	50,000	
Total I–IX			1,610,000	9,058,000	10,668,000	

Table 29—Southern Province: 1972–76 Investment Programme

(Kwacha)

Sector/Department	Projects	Location	1972	1973–76	1972–76	Remarks
I. Judiciary			15,000	105,000	120,000	
	1. Local Courts and Staff Housing ..	All Districts	15,000	105,000	120,000	Improvement of local courts and staff housing
II. Provincial and Local Government			95,000	535,000	630,000	
	2. Grants to Local Authorities ..	All Districts	95,000	535,000	630,000	Funds for small self-help schemes
III. Information, Broadcasting and Tourism			—	64,000	64,000	
	3. Rest Houses	All Districts	—	64,000	64,000	Construction and extension of rest houses
IV. Health			165,000	825,000	990,000	
	4. Contingencies and Small Projects	All Districts	—	136,000	136,000	
	5. Grants to Missions		5,000	39,000	44,000	Extensions to mission hospital and health centres
	6. Health Accommodation ..	Livingstone, Gwembe, Choma, Namwala, Kalomo, Monze, Mazabuka	60,000	282,000	342,000	Staff accommodation of medical institutions
	7. Rural Health Centres	Kalomo, Gwembe, Namwala, Choma, Monze, Mazabuka	100,000	368,000	468,000	Extension of health facilities
V. Education			261,600	1,638,400	1,900,000	
	8. New Primary Schools	All Districts	173,000	691,000	864,000	Twenty-five new Grade VI classes and thirty new Grade V classes
	9. Replacement of School Classes	All Districts	30,000	432,500	462,500	Continuation of the replacement programme
	10. Practical Rooms	All Districts	48,600	314,900	363,500	Construction of rooms for teaching practical skills in schools
	11. Emergencies, Repairs and Other Services	All Districts	10,000	200,000	210,000	
VI. Transport			454,300	2,515,700	2,970,000	
	12. Road from Choma to Masuku ..	.. ..	—	242,000	242,000	
	13. Monze–Mboma Road	.. ..	—	255,000	255,000	Upgrading to Class I standard
	14. Chisekezi–Gwembe Road ..	.. ..	—	362,000	362,000	Upgrading to Class I standard
	15. Pemba Road	.. ..	—	312,000	312,000	Improvement and construction of bridges
	16. Coal Road to Sinazongwe ..	.. ..	256,000	—	256,000	
	17. Feeder Road Development ..	All Districts	108,300	908,700	1,017,000	
	18. Livingstone Second Line Workshop	Livingstone	9,000	1,000	10,000	Improvement of existing workshop
	19. First Line Workshops	Sinazongwe, Kalomo, Namwala, Mazabuka, Monze, Siavonga	17,000	27,000	44,000	
	20. Choma Provincial Workshop ..	Gwembe, Choma	15,000	136,000	151,000	Construction of a new workshop
	21. Minor Works	All Districts	4,000	16,000	20,000	
	22. Office Accommodation	Livingstone, Gwembe, Choma, Namwala, Kalomo, Monze, Mazabuka	45,000	256,000	301,000	

Table 40—*continued*

Sector/Department	Projects	Location	1972	1973–76	1972–76	Remarks
			86,000	494,000	580,000	
VII. Lands and Natural Resources						
	23. Forest Protection and Management	Livingstone, Gwembe, Choma, Namwala, Kalomo, Monze and Mazabuka	10,000	53,000	63,000	
	24. Plantations	Choma, Mazabuka, Magoye ..	16,000	26,000	42,000	
	25. New Nurseries	Siamambo, Namwala, Magoye, Chipero	—	38,000	38,000	
	26. Equipment for Forest Department	All Districts	—	10,000	10,000	Replacement of water tanks, engine, etc.
	27. Staff housing	All Districts	—	46,000	46,000	
	28. New Depots	Mbala, Kabulamwande, Namwala, Mapayuala, Maala	—	68,000	68,000	
	29. Plantation Product Depots ..	Nungumbwe, Gwembe, Choma and Livingstone	20,000	34,000	54,000	Extension of impregnation plant
	30. Kafue Fishery	Kafue	40,000	114,000	154,000	Extension to existing fishery
	31. Kariba Fishery	Kariba Lake	—	105,000	105,000	Construction of processing plant
			523,100	2,756,900	3,280,000	
VIII. Rural Development ..	32. Intensive Village Development	Namwala, Kalomo, Gwembe, Choma, Mazabuka, Monze	32,000	173,173	205,173	Fund for self-help schemes and carry-over projects
	33. Settlement Schemes		20,000	80,000	100,000	
	34. Staff Housing	Gwembe, Kalomo, Mazabuka, Choma, Livingstone, Monze and Namwala	—	496,000	496,000	
	35. Veterinary and Tsetse Control		—	129,200	129,200	Improvement and extension
	36. Catchment Conservation ..	Sipatunyama, Ngwemanzi, Nkugwa, Gamela, Mbabala, Mansenya, Siyakacheka	75,000	466,000	541,000	Provision for general infrastructure
	37. Extension and Training ..	All Districts	120,000	419,000	539,000	Continuation of the programme
	38. Water Supplies	All Districts	208,000	714,627	922,627	Construction of wells, boreholes, dams, etc.
	39. Storage Facilities	All Districts	6,100	24,900	31,000	Establishment of storage sheds for fertiliser, etc.
	40. Regional Research		62,000	254,000	316,000	Expansion of regional research programme
Total I–VIII			1,600,000	8,934,000	10,534,000	

Table 30—Central Province: 1972–76 Investment Programme
(Kwacha)

Sector/Department	Projects	Location	1972	1973–76	1972–76	Remarks
I. Judiciary			**22,000**	**128,000**	**150,000**	
	1. Local Courts and Staff Housing	Mumbwa, Mkushi, Serenje, Feira, Kabwe (Rural) and Lusaka (Urban)	22,000	128,000	150,000	Construction and improvement of local court buildings and staff housing
II. Provincial and Local Government			**90,000**	**770,000**	**860,000**	
	2. Grants to Local Authorities	All Districts	90,000	770,000	860,000	Funds for small self-help schemes
III. Information, Broadcasting and Tourism			**5,000**	**89,000**	**94,000**	
	3. Rest Houses	Serenje, Mkushi, Mumbwa, Kabwe	5,000	89,000	94,000	Construction of and improvement to rest houses
IV. Health			**95,000**	**608,000**	**703,000**	
	4. Staff Accommodation	All Districts	30,000	210,000	240,000	Improvement to staff accommodation of medical institutions
	5. Rural Health Centres	All Districts	45,000	260,000	305,000	
	6. Grants to Missions	All Districts	20,000	138,000	158,000	Grants for extending hospital facilities
V. Education			**671,000**	**3,918,000**	**4,589,000**	
	7. New Primary Schools	Lusaka Region	238,000	1,694,000	1,932,000	
		Kabwe Region	270,000	989,000	1,259,000	
	8. Replacements	Lusaka Region	40,000	222,000	262,000	
		Kabwe Region	45,000	235,000	280,000	
	9. Practical Rooms	Lusaka Region	31,000	200,000	231,000	
		Kabwe Region	27,000	178,000	205,000	
	10. Emergencies, Repairs and Other Services	Lusaka Region	10,000	200,000	210,000	
		Kabwe Region	10,000	200,000	210,000	
VI. Transport			**256,000**	**694,000**	**950,000**	
	11. Road Improvement	All Districts	140,000	597,000	737,000	
	12. MSB Workshops	All Districts	17,000	33,000	50,000	
	13. Buildings	All Districts	95,000	56,000	151,000	
	14. Minor Works	All Districts	4,000	8,000	12,000	
VII. Lands and Natural Resources			**46,000**	**173,000**	**219,000**	
	15. Forestry Protection and Management		36,000	79,000	115,000	
	16. Fisheries: Extension and Development		10,000	94,000	104,000	

Table 30—continued

Sector/Department	Projects	Location	1972	1973–76	1972–76	Remarks
VIII. Rural Development ..			215,000	1,635,000	1,850,000	
	17. Catchment Conservation ..	All Districts	40,000	259,000	299,000	
	18. Extension and Training Programme	All Districts	90,000	653,000	743,000	
	19. Veterinary Services and Tsetse Control	All Districts	15,000	113,000	128,000	General animal health and tsetse control service
	20. Intensive Village Development	All Districts	30,000	263,000	293,000	
	21. Water Supply Schemes ..	All Districts	40,000	347,000	387,000	Canals, drainage and irrigation schemes for improving the quality and quantity of water supplies
Total I–VIII			1,400,000	8,015,000	9,415,000	

Table 31—Copperbelt Province: 1972–76 Investment Programme

(Kwacha)

Sector/Department	Projects	Location	1972	1973–76	1972–76	Remarks
I. Judiciary			**27,000**	**123,000**	**150,000**	
	1. Local Courts and Staff Housing	All Districts	27,000	123,000	150,000	Construction of and extension to local courts and staff houses
II. Provincial and Local Government			**53,000**	**147,000**	**200,000**	
	2. Grants to Local Authorities ..	All Districts	53,000	147,000	200,000	Assistance for Ndola cultural village, rural council projects and office blocks at main towns
III. Information, Broadcasting and Tourism			**15,000**	**31,000**	**46,000**	
	3. Rest Houses	Ndola, Masaiti, Chililabombwe	15,000	31,000	46,000	Extension and improvement to rest houses
IV. Health			**60,000**	**320,000**	**380,000**	
	4. Grants to Missions	All Districts	24,000	96,000	120,000	Assistance for improvements to mission hospitals and rural health centres
	5. Rural Health Centres	All Districts	19,000	131,000	150,000	Construction of new, and improvements to existing, rural health centres
	6. Staff Accommodation	All Districts	17,000	73,000	90,000	Accommodation for staff of medical institutions
	7. Contingencies	All Districts	—	20,000	20,000	
V. Education			**766,000**	**4,647,000**	**5,413,000**	
	8. New Primary Schools	All Districts	577,000	3,292,000	3,869,000	
	9. Replacements of School Classes	All Districts	96,000	620,000	716,000	Continuation of replacement programme
	10. Practical Rooms	All Districts	83,000	535,000	618,000	Construction of rooms for teaching practical skills
	11. Emergency Repairs and Other Services	All Districts	10,000	200,000	210,000	
VI. Transport			**178,000**	**1,212,000**	**1,390,000**	
	12. Roads	All Districts	156,000	625,000	781,000	Development of feeder roads
	13. Buildings	Main Townships	—	519,000	519,000	
	14. Mechanical Services	Main Townships	17,000	52,000	69,000	
	15. Minor Works	Main Townships	5,000	16,000	21,000	
VII. Lands and Natural Resources			**26,000**	**69,000**	**95,000**	
	16. Forest Protection and Management	All Districts				
	17. Forest Plantation	All Districts	26,000	59,000	85,000	
	18. Staff Improvement and Housing	All Districts				
	19. Bee Keeping	All Districts	—	10,000	10,000	

Table 31—*continued*

Sector/Department	Projects	Location	1972	1973–76	1972–76	Remarks
VIII. Rural Development ..			**235,000**	**1,205,000**	**1,440,000**	
	20. Agricultural Development and Training	All Districts	99,000	667,000	766,000	
	21. Community Development ..	All Districts	26,000	159,000	185,000	Intensive village development programmes
	22. Veterinary Services and Tsetse Control	All Districts	13,000	14,000	27,000	
	23. Village and Other Water Supplies	All Districts	93,000	342,000	435,000	Improvements of supply of drinking and other water
	24. Research	All Districts	4,000	8,000	12,000	Continuation of research programme
	25. Staff Housing	All Districts	—	15,000	15,000	Improvement to housing of staff of the Department
Total I–VIII			1,360,000	7,754,000	9,114,000	

Table 32—North-Western Province: 1972–76 Investment Programme

(Kwacha)

Sector/Department	Projects	Location	1972	1973–76	1972–76	Remarks
I. Judiciary			20,000	80,000	100,000	
	1. Local Courts and Staff Housing	Kalengwa, Mwinilunga, Zambezi and Kabompo	20,000	80,000	100,000	Construction of local courts and staff housing
II. Provincial and Local Government			110,000	483,000	593,000	
	2. Grants to Local Authorities ..	All Districts	110,000	483,000	593,000	Funds for small help schemes such as construction of road bridges, bus shelters, wells, markets, welfare halls, etc.
III. Information, Broadcasting and Tourism			—	77,000	77,000	
	3. Rest Houses	Zambezi, Kabompo, Mwinilunga and Kasama	—	77,000	77,000	
IV. Health			105,000	561,000	666,000	
	4. Staff Housing	All Districts	30,000	100,000	130,000	Accommodation for staff of medical institutions
	5. Rural Health Centres	All Districts	45,000	281,000	326,000	Construction of new and extensions to existing centres
	6. Grants to Missions	All Districts	30,000	180,000	210,000	Assistance for extension to Mission hospitals and health centres
V. Education			244,000	1,207,000	1,451,000	
	7. New Primary Schools	All Districts	186,000	709,000	895,000	
	8. Replacement of School Classes	All Districts	31,000	187,000	218,000	Continuation of replacement programme
	9. Practical Rooms	All Districts	17,000	111,000	128,000	Construction of rooms for teaching practical skills
	10. Emergencies, Repairs and Other Services	All Districts	10,000	200,000	210,000	Provision for emergency expenditure
VI. Transport			436,000	2,211,000	2,647,000	
	11. Roads	All Districts	391,000	1,718,000	2,109,000	Development of feeder roads
	12. Workshops	All Districts	20,000	53,000	73,000	
	13. Office Accommodation	All Districts	20,000	420,000	440,000	
	14. Minor Works	All Districts	5,000	20,000	25,000	
VII. Lands and Natural Resources			34,000	149,000	183,000	
	15. Fisheries-staff Houses				47,000	
	16. Extension of Ponds				12,000	
	17. Dam Stumping				15,000	The provision for 1972 includes: Regional and Local Supply plantation K5,000; forest protection and management K10,000; rural forest enterprises K9,500; and station improvement and staff housing K9,500
	18. Bee-keeping ..	All Districts	34,000	149,000	15,000	
	19. Forestry				20,000	
	20. Station Development				1,000	
	21. Transport				23,000	
	22. Carryovers				50,000	

Table 32—*continued*

Sector/Department	Projects	Location	1972	1973–76	1972–76	Remarks
VIII. Rural Development ..			362,000	1,761,000	2,123,000	
	23. Research Station	Mwinilunga	60,000	237,000	297,000	Research programme
	24. Veterinary Services and Tsetse Control	All Districts	20,000	39,000	59,000	Improvement of veterinary services
	25. Marketing	All Districts	13,000	86,000	99,000	Distribution of fertiliser and other products and storage facilities
	26. Co-operative and Village Water Supplies	All Districts	100,000	600,000	700,000	Improvement of water supply facilities
	27. Provincial Extension and Training	All Districts	109,000	503,000	612,000	Improvement of research and training facilities
	28. Community Development ..	All Districts	60,000	296,000	356,000	Schemes for intensive village development
IX. Labour and Social Services			—	50,000	50,000	
	29. Sports Stadium	Solwezi	—	50,000	50,000	Improvement of facilities for sports activities in the province
Total I–IX			1,311,000	6,579,000	7,890,000	

Table 33—Western Province: 1972–76 Investment Programme
(Kwacha)

Sector/Department	Projects	Location	1972	1973–76	1972–76	Remarks
I. Judiciary	1. Local Courts and Staff Housing	All Districts	10,000 10,000	320,000 320,000	330,000 330,000	Funds for construction of local courts and staff housing, to be distributed as follows: Kalabo: K87,000; Senanga: K70,000; Mongu: K44,000; Sesheke: K14,000; Lukulu: K26,000; Kaoma: K89,000
II. Provincial and Local Government	2. Grants to Local Authorities ..	All Districts	70,000 70,000	600,000 600,000	670,000 670,000	Funds for small self-help schemes to be allocated as follows: Kaoma Rural Council: K100,000 Sesheke Rural Council: K100,000 Kalabo Rural Council: K106,900 Senanga Rural Council: K110,000 Mongu Rural Council: K100,000 Lukulu Rural Council: K153,100
III. Information, Broadcasting and Tourism	3. Rest Houses	Sesheke, Kalabo, Kaoma, Senanga, Mongu	5,000 5,000	105,000 105,000	110,000 110,000	New rest house at Kalabo: K35,000; new rest house at Sesheke: K35,000; extension of Kaoma rest house: K10,000; extension of Senanga rest house: K10,000; extension of Mongu rest house: K20,000
IV. Health	4. Rural Health Centres	All Districts	100,000 60,000	780,000 452,000	880,000 512,000	Improvement and extension of rural health centres
	5. Grants to Missions	All Districts	15,000	131,000	146,000	These funds will be allocated to hospitals and health centres of various districts as follows: Mongu: K10,310; Senanga: K40,797; Lukulu: K13,564; Kaoma: K27,133; Kalabo: K27,138; Sesheke: K27,138
	6. Staff Accommodation	All Districts	25,000	197,000	222,000	Housing accommodation for staff in health centres and hospitals
V. Education	7. New Primary Schools	All Districts	289,000 251,500	1,644,000 999,500	2,033,000 1,250,500	Twenty-seven new Grade I classes and thirty-seven new Grade V classes
	8. Replacement of School Classes	All Districts	64,600	362,400	327,000	Continuation of the replacement programme
	9. Practical Rooms	All Districts	33,500	202,500	235,500	Construction of rooms for teaching practical skills in primary schools
	10. School Repairs and Other Services	All Districts	10,000 738,000	200,000 3,200,000	210,000 3,938,000	
VI. Transport	11. Mongu–Limulunga Road ..		—	676,000	676,000	Upgrading of road to Class I standard
	12. Namushakende–Nalikwanda and Kalabo–Mongu Roads ..		430,000	80,000	700,000	Completion of roads commenced in FNDP period

Table 33—continued

Sector/Department	Projects	Location	1971	1972–76	1972–76	Remarks
	13. Road Haulwork and Feeder Roads	All Districts	—	1,339,000	1,339,000	
	14. Mongu Workshop	Mongu	—	333,000	333,000	
	15. Mpuni Works		5,000	30,000	35,000	
	16. Office Accommodation	All Districts	40,000	312,000	352,000	
	17. First and Second Line Workshops	Kalabo, Kaoma, Senanga, Lukulu, Sesheke	55,000	320,000	375,000	
VII. Lands and Natural Resources	18. Forest Stations and Staff Housing	All Districts	75,000 10,000	613,000 161,000	688,000 171,000	Improvement of stations, extension services, staff housing
	19. Forest Protection and Management	All Districts	30,000	125,000	155,000	Funds for land surveys equipment, buildings and demarcations
	20. Plantation Management ..		20,000	170,000	190,000	
	21. Plant Nurseries	Mongu, Sesheke	—	30,000	30,000	Funds for building and equipment
	22. Bee-keeping	Various Districts	—	36,000	36,000	Funds for equipment and buildings
	23. Fisheries: Extension and Trading	Various Districts	15,000	91,000	106,000	Funds for market improvements, purchase of equipment, staff accommodation, etc.
VIII. Rural Development ..	24. Catchment Conservation ..	Sesheke, Luena, Mongu ..	25,000	125,000	150,000	Bridges, feeder roads, embankments
	25. Research Stations	Namushakende, Sesheke ..	61,000	109,000	170,000	Extension of research sub-stations
	26. Agricultural Extension and Training	All Districts	110,000 80,000	883,000 378,000	993,000 458,000	
	Water Supply Schemes:					
	27. Kaoma Project		—	—	171,000	
	28. Sesheke Project		—	—	112,000	
	29. Kalabo Project		—	—	48,000	Construction of dams, boreholes, wells and installation of transportation pipes
	30. Senanga Project		—	—	59,000	
	31. Lukulu Project		—	—	27,000	
	32. Mongu Project		—	—	44,000	
	33. Veterinary and Tsetse Control	All Districts	80,000	170,000	250,000	Extension of veterinary service facilities, tsetse control, bush clearing, etc.
	34. Community Development ..	All Districts	30,000	586,000	616,000	Intensive village development, small self-help projects such as community halls, foot bridges, etc.
	35. Canals	All Districts	75,000	570,000	645,000	Construction of canals, improvement of navigation and drainage
	36. Storage sheds	All Districts	—	44,000	44,000	Construction of storage sheds for improving the distribution of fertilizers, etc.
IX. Labour and Social Services ..	37. Sports Stadium	Mongu	— —	50,000 50,000	50,000 50,000	
Total I–IX			1,800,000	10,277,000	12,077,000	

STATISTICAL APPENDICES

Appendix I: Population, Manpower and Employment Statistics

Appendix II: Foreign Trade and Balance of Payments Statistics

Appendix III: Movement of Copper Prices

APPENDIX I

Table 1—Population distribution by Sex and Broad Age Groups for the years 1971 and 1976
(African population only)
(thousands)

Age Group	1971			1976			Annual Rate of Growth 1971–76 (per cent)
	M	F	T	M	F	T	
0–14	994 (46.1)	996 (45.6)	1,990 (45.9)	1,150 (46.2)	1,147 (45.7)	2,297 (45.9)	2.9
15–24	401 (18.6)	403 (18.5)	804 (18.5)	480 (19.3)	480 (19.1)	960 (19.2)	3.6
25–44	495 (23.0)	507 (23.2)	1,002 (23.1)	554 (22.3)	565 (22.5)	1,119 (22.4)	2.2
45–64	220 (10.2)	227 (10.4)	447 (10.3)	252 (10.1)	262 (10.4)	514 (10.3)	2.8
65+	44 (2.0)	49 (2.2)	93 (2.1)	51 (2.1)	58 (2.3)	109 (2.2)	3.2
Total ..	2,154 (100.0)	2,182 (100.0)	4,336 (100.0)	2,487 (100.0)	2,512 (100.0)	4,999 (100.0)	2.9

NOTE—M = Males; F = Females; T = both sexes combined.
Figures may not add due to rounding.
Figures in brackets are percentages of the total.

Table 2—Age and Sex distribution of population by Provinces for the years 1971 and 1976
(African population only)
(thousands)

Age Group	Central				Copperbelt			
	1971		1976		1971		1976	
	M	F	M	F	M	F	M	F
0–14	171 (42.1)	174 (46.6)	216 (42.9)	216 (46.6)	210 (44.0)	215 (51.1)	267 (44.7)	271 (50.7)
15–24	83 (20.4)	76 (20.4)	106 (21.0)	97 (20.9)	98 (20.5)	88 (20.9)	125 (20.9)	114 (21.3)
25–44	108 (26.6)	86 (23.1)	127 (25.2)	102 (22.0)	132 (27.7)	93 (22.1)	155 (26.0)	114 (21.3)
45–64	38 (9.4)	31 (8.3)	47 (9.3)	41 (8.8)	34 (7.1)	22 (5.2)	45 (7.5)	30 (5.6)
65+	6 (1.5)	6 (1.6)	8 (1.6)	8 (1.7)	3 (0.6)	3 (0.7)	5 (0.8)	5 (0.9)
Total	406 (100.0)	373 (100.0)	504 (100.0)	464 (100.0)	477 (100.0)	421 (100.0)	597 (100.0)	534 (100.0)

Age Group	Eastern				Luapula			
	1971		1976		1971		1976	
	M	F	M	F	M	F	M	F
0–14	122 (49.0)	121 (42.0)	132 (49.6)	129 (42.0)	85 (49.4)	85 (46.7)	93 (50.0)	92 (44.7)
15–24	45 (18.1)	49 (17.0)	49 (18.4)	55 (17.9)	31 (18.0)	33 (18.1)	35 (18.8)	37 (18.8)
25–44	47 (18.9)	69 (24.0)	49 (18.4)	72 (23.5)	34 (19.8)	39 (21.4)	35 (18.8)	42 (21.3)
45–64	28 (11.2)	40 (13.9)	29 (10.9)	41 (13.4)	19 (11.1)	21 (11.5)	19 (10.2)	22 (11.2)
65+	7 (2.8)	9 (3.1)	7 (2.6)	10 (3.3)	3 (1.7)	4 (2.2)	4 (2.2)	4 (2.0)
Total	249 (100.0)	288 (100.0)	266 (100.0)	307 (100.0)	172 (100.0)	182 (100.0)	186 (100.0)	197 (100.0)

Table 2—*continued*

Age Group	Northern				North-Western			
	1971		1976		1971		1976	
	M	F	M	F	M	F	M	F
0–14	142 (52.0)	142 (46.9)	153 (51.9)	153 (46.9)	50 (43.1)	49 (38.0)	55 (43.3)	53 (38.1)
15–24	48 (17.6)	53 (17.5)	54 (18.3)	59 (18.1)	19 (16.4)	20 (15.5)	21 (16.5)	23 (16.6)
25–44	48 (17.6)	66 (21.8)	51 (17.3)	69 (21.2)	25 (21.6)	35 (27.1)	27 (21.3)	37 (26.6)
45–64	28 (10.3)	35 (11.6)	30 (10.2)	37 (11.3)	18 (15.5)	20 (15.5)	19 (15.0)	21 (15.1)
65+	7 (2.6)	7 (2.3)	7 (2.4)	8 (2.4)	4 (2.5)	5 (3.4)	5 (3.9)	5 (3.6)
Total	273 (100.0)	303 (100.0)	295 (100.0)	326 (100.0)	116 (100.0)	129 (100.0)	127 (100.0)	139 (100.0)

Age Group	Southern				Western			
	1971		1976		1971		1976	
	M	F	M	F	M	F	M	F
0–14	124 (47.9)	125 (48.3)	135 (47.9)	134 (47.7)	88 (43.3)	88 (37.6)	100 (43.9)	98 (37.7)
15–24	46 (17.8)	46 (17.8)	53 (18.8)	53 (18.7)	32 (15.8)	38 (16.2)	37 (16.2)	44 (16.9)
25–44	58 (22.4)	58 (22.4)	60 (21.3)	62 (22.1)	44 (21.7)	62 (26.5)	48 (21.1)	67 (25.8)
45–64	26 (10.0)	24 (9.3)	27 (9.6)	26 (9.2)	31 (15.3)	37 (15.8)	34 (14.9)	41 (15.8)
65+	5 (1.9)	6 (2.3)	6 (2.1)	7 (2.4)	8 (3.9)	9 (3.8)	9 (3.9)	10 (3.8)
Total	259 (100.0)	259 (100.0)	281 (100.0)	282 (100.0)	203 (100.0)	234 (100.0)	228 (100.0)	260 (100.0)

M = Males; F = Females.
Figures in brackets are percentages of the total.
Totals may not add due to rounding.

Table 3—Age and Sex distribution of rural and urban population (*African population only*)
(thousands)

Age Group	1971						1976					
	Urban			Rural			Urban			Rural		
	M	F	T	M	F	T	M	F	T	M	F	T
0–14	295 (42.9)	315 (50.7)	610 (46.6)	699 (47.6)	681 (43.7)	1,380 (45.6)	416 (44.5)	436 (49.2)	852 (46.8)	734 (47.3)	711 (43.7)	1,445 (46.1)
15–24	149 (21.7)	134 (21.6)	283 (21.7)	252 (17.2)	270 (17.3)	520 (17.2)	196 (21.0)	185 (20.9)	381 (20.9)	284 (18.3)	295 (18.1)	579 (18.2)
25–44	191 (27.8)	138 (22.2)	329 (25.1)	305 (20.8)	368 (23.6)	675 (22.3)	238 (25.4)	198 (22.3)	436 (23.9)	316 (20.4)	367 (22.6)	683 (21.5)
45–64	48 (7.0)	29 (4.7)	77 (5.9)	172 (11.7)	196 (12.6)	366 (12.1)	76 (8.1)	58 (6.5)	134 (7.4)	176 (11.3)	204 (12.5)	380 (12.0)
65+	5 (0.7)	4 (0.7)	9 (0.6)	40 (2.7)	45 (2.9)	85 (2.8)	10 (1.1)	10 (1.1)	20 (1.1)	41 (2.6)	48 (3.0)	89 (2.8)
Total	687 (100.0)	622 (100.0)	1,309 (100.0)	1,468 (100.0)	1,558 (100.0)	3,027 (100.0)	936 (100.0)	886 (100.0)	1,822 (100.0)	1,551 (100.0)	1,626 (100.0)	3,177 (100.0)

M = Males; F = Females; T = both sexes combined.
Figures in brackets are percentages of the total.
Totals may not add due to rounding.

Table 4—Age and Sex structure of the Labour Force (*African population only*)
(thousands)

Age Group	1971			1976			Annual Rate of Growth (per cent) 1971–76 of Total LF
	M	F	T	M	F	T	
15–24	296 (30.7)	171 (34.9)	467 (32.1)	373 (32.4)	217 (34.1)	590 (33.0)	4.8
25–44	452 (46.9)	181 (36.9)	633 (43.6)	520 (45.2)	245 (38.5)	765 (42.8)	3.9
45–64	189 (19.6)	121 (24.7)	310 (21.3)	226 (19.6)	151 (23.7)	377 (21.1)	4.0
65+	25 (2.6)	16 (3.3)	41 (2.8)	32 (2.8)	22 (3.5)	54 (3.0)	5.6
Total ..	963 (100.0)	490 (100.0)	1,453 (100.0)	1,151 (100.0)	636 (100.0)	1,787 (100.0)	4.2

NOTE—M = Males; F = Females; T = both sexes combined.
LF = labour force.
Figures in brackets are percentages of total.
Totals may not add due to rounding.

Table 5—Age and Sex structure of Labour Force by urban and rural areas (*African population only*)
(thousands)

Age Group	1971						1976					
	Urban			Rural			Urban			Rural		
	M	F	T	M	F	T	M	F	T	M	F	T
15–24	94 (28.9)	42 (45.2)	136 (32.5)	202 (31.7)	129 (32.5)	331 (32.0)	126 (29.0)	67 (39.6)	193 (32.0)	247 (34.5)	150 (32.1)	397 (33.6)
25–44	182 (56.0)	37 (39.8)	219 (52.4)	270 (42.3)	144 (36.3)	414 (40.0)	230 (52.9)	72 (42.6)	302 (50.0)	290 (40.5)	173 (37.0)	463 (39.1)
45–64	46 (14.2)	13 (14.0)	59 (14.1)	143 (22.4)	108 (24.3)	251 (24.3)	73 (16.8)	28 (16.6)	101 (16.7)	153 (21.4)	123 (26.3)	276 (23.3)
65+	3 (0.9)	1 (1.1)	4 (0.9)	22 (3.4)	15 (3.8)	37 (3.6)	6 (1.4)	2 (1.2)	8 (1.3)	26 (3.6)	20 (4.3)	46 (3.9)
Total	325 (100.0)	93 (100.0)	418 (100.0)	638 (100.0)	397 (100.0)	1,035 (100.0)	435 (100.0)	169 (100.0)	604 (100.0)	716 (100.0)	467 (100.0)	1,183 (100.0)

NOTE—M = Males; F = Females; T = both sexes combined.
Figures in brackets are percentages of total.
Totals may not add due to rounding.

Table 6—Age and sex structure of the labour force by Provinces (*African population only*)*
(thousands)

Age Group	Central				Copperbelt			
	1971		1976		1971		1976	
	M	F	M	F	M	F	M	F
15–24	67.8 (32.0)	34.0 (41.5)	91.1 (34.4)	45.0 (40.2)	74.0 (31.2)	32.4 (44.8)	98.4 (33.0)	44.6 (43.1)
25–44	104.2 (49.2)	31.8 (38.8)	123.2 (46.5)	43.6 (39.0)	129.1 (54.4)	29.4 (40.6)	152.7 (51.2)	42.9 (41.4)
45–64	35.7 (16.9)	14.4 (17.6)	45.4 (17.1)	20.7 (18.5)	32.6 (13.7)	10.0 (13.8)	44.0 (14.8)	15.1 (14.6)
65+	4.0 (1.9)	1.8 (2.2)	5.3 (2.0)	2.7 (2.4)	1.7 (0.7)	0.6 (0.8)	3.0 (1.0)	1.0 (1.0)
Total	211.7 (100.0)	82.0 (100.0)	265.0 (100.0)	112.0 (100.0)	237.4 (100.0)	72.4 (100.0)	298.1 (100.0)	103.6 (100.0)

* These estimates have been prepared in the Development Planning Division of the Ministry of Development Planning and National Guidance.

Table 6—*continued*

Age Group	Eastern				Luapula			
	1971		1976		1971		1976	
	M	F	M	F	M	F	M	F
15–24	33.4 (33.9)	24.3 (33.6)	38.4 (35.3)	28.6 (33.1)	21.3 (30.9)	13.2 (32.4)	25.6 (33.2)	16.3 (32.1)
25–44	39.3 (39.9)	23.8 (32.9)	43.0 (39.5)	30.5 (35.3)	30.2 (43.8)	14.2 (34.9)	32.4 (42.0)	19.1 (37.6)
45–64	22.0 (22.3)	21.5 (29.7)	23.0 (21.1)	23.9 (27.6)	15.8 (22.9)	11.8 (29.0)	16.6 (21.5)	13.6 (26.8)
65+	3.9 (4.0)	2.8 (3.9)	4.5 (4.1)	3.5 (4.0)	1.7 (2.5)	1.5 (3.7)	2.5 (3.2)	1.8 (3.5)
Total	98.6 (100.0)	72.4 (100.0)	108.9 (100.0)	86.5 (100.0)	69.0 (100.0)	40.7 (100.0)	77.1 (100.0)	50.8 (100.0)

Age Group	Northern				North-Western			
	1971		1976		1971		1976	
	M	F	M	F	M	F	M	F
15–24	29.3 (30.1)	20.1 (32.6)	34.6 (31.1)	25.1 (33.6)	12.7 (25.1)	9.1 (25.5)	14.8 (25.5)	11.2 (25.4)
25–44	41.8 (42.9)	21.4 (34.7)	47.0 (42.2)	26.6 (35.6)	21.3 (42.2)	13.1 (36.7)	24.0 (41.6)	17.6 (40.0)
45–64	22.5 (33.1)	17.9 (29.1)	25.3 (22.7)	20.0 (26.7)	14.6 (28.9)	11.9 (33.3)	16.1 (28.0)	13.3 (20.2)
65+	3.9 (4.0)	2.2 (3.6)	4.5 (4.0)	3.0 (4.0)	1.9 (3.8)	1.6 (4.5)	2.8 (4.9)	2.9 (4.5)
Total	97.5 (100.0)	61.6 (100.0)	111.4 (100.0)	74.7 (100.0)	50.5 (100.0)	35.7 (100.0)	57.7 (100.0)	44.1 (100.0)

Age Group	Southern				Western			
	1971		1976		1971		1976	
	M	F	M	F	M	F	M	F
15–24	36.5 (30.7)	23.0 (35.1)	44.2 (33.4)	28.5 (34.0)	20.8 (24.9)	16.3 (25.3)	25.3 (26.0)	19.9 (24.8)
25–44	54.5 (45.8)	24.8 (37.9)	57.6 (43.5)	34.2 (40.7)	34.9 (41.7)	23.5 (36.5)	39.8 (41.0)	31.3 (39.0)
45–64	24.0 (20.2)	14.4 (22.0)	26.0 (19.6)	17.1 (20.4)	24.5 (29.3)	22.0 (34.2)	27.0 (28.3)	25.7 (32.0)
65+	4.0 (3.4)	3.3 (5.0)	4.7 (3.5)	4.1 (4.9)	3.5 (4.2)	2.5 (3.9)	4.7 (4.8)	3.4 (4.2)
Total	119.0 (100.0)	65.5 (100.0)	132.5 (100.0)	84.0 (100.0)	83.7 (100.0)	64.3 (100.0)	97.3 (100.0)	80.3 (100.0)

NOTE—M = Males; F = Females.
Totals may not add due to rounding.
Figures in brackets are percentages of total.

APPENDIX II

Table 1—Commodity Exports over the FNDP

(K million, f.o.b. value, current prices)

Commodity	1966	1967	1968	1969	1970	1966–70
Copper	460.6	434.0	516.1	724.5	681.1	2,816.3
Zinc	8.2	8.1	9.0	12.4	11.0	48.7
Lead	4.7	2.7	2.7	6.1	4.9	21.1
Cobalt	4.3	5.6	3.4	4.5	6.3	24.1
Other export and re-export	15.7	19.6	13.2	19.0	11.5	79.0
Total	493.5	470.0	544.4	766.5	714.8	2,989.2

Table 2—Commodity Exports over the SNDP

(K million, f.o.b. value, current prices)

Commodity	1972	1973	1974	1975	1976	1972–76
Copper	528	600	666	675	684	3,153
Zinc	10	10	12	13	13	58
Lead	4	4	4	4	4	20
Cobalt	8	9	9	9	20	55
Other export and re-export	14	15	15	17	19	80
Total	564	638	706	718	740	3,366

Table 3—Imports of goods by end-use classification (Summary)

(K million, current prices)

	1966		1967		1968		1969		Average 1966–69	
	Value	per cent	Value	per cent	Value	per cent	Value	per cent	Value	per cent
Fuel and Electricity ..	22.9	8.0	36.7	10.2	39.4	10.2	42.6	11.5	35.4	10.1
Raw materials and intermediate products ..	108.0	37.8	125.6	35.0	141.0	36.7	133.5	36.0	127.0	36.3
Capital equipment ..	77.3	27.1	97.5	27.1	104.9	27.3	94.6	25.5	93.6	26.7
Consumer goods:	77.5	27.1	99.5	27.7	99.3	25.8	100.2	27.0	94.1	26.9
of which, Food ..	18.7	5.2	20.2	5.6	22.5	5.1	28.9	7.3	22.6	6.1
Total	285.7	100.0	359.3	100.0	384.6	100.0	370.9	100.0	350.1	100.0

NOTE—Based on a detailed end-use classification prepared in the Development Planning Division.

Table 4—Imports of goods by end-use classification

(K million, c.i.f. value, current prices)

	1972		1973		1974		1975		1976		Average 1972–76	
	Value	per cent	Value	per cent	Value	per cent	Value	per cent	Value	per cent	Value	per cent
Fuel and Electricity	45	9.3	46	8.6	48	8.1	45	7.3	45	7.0	45.8	8.1
Raw materials and intermediate products	196	40.4	220	41.1	251	42.2	264	43.0	282.5	43.4	242.7	42.9
Capital equipment	128	26.4	143	26.7	160	26.9	168	27.3	180	27.7	155.8	27.6
Consumer goods	116	23.9	126	23.6	136	22.8	138	22.4	142.5	21.9	131.7	23.3
Total	485	100.0	535	100.0	595	100.0	615	100.0	650	100.0	576.0	100.0

Table 5—Zambia's import coefficients and their components
(values in K million, current prices)

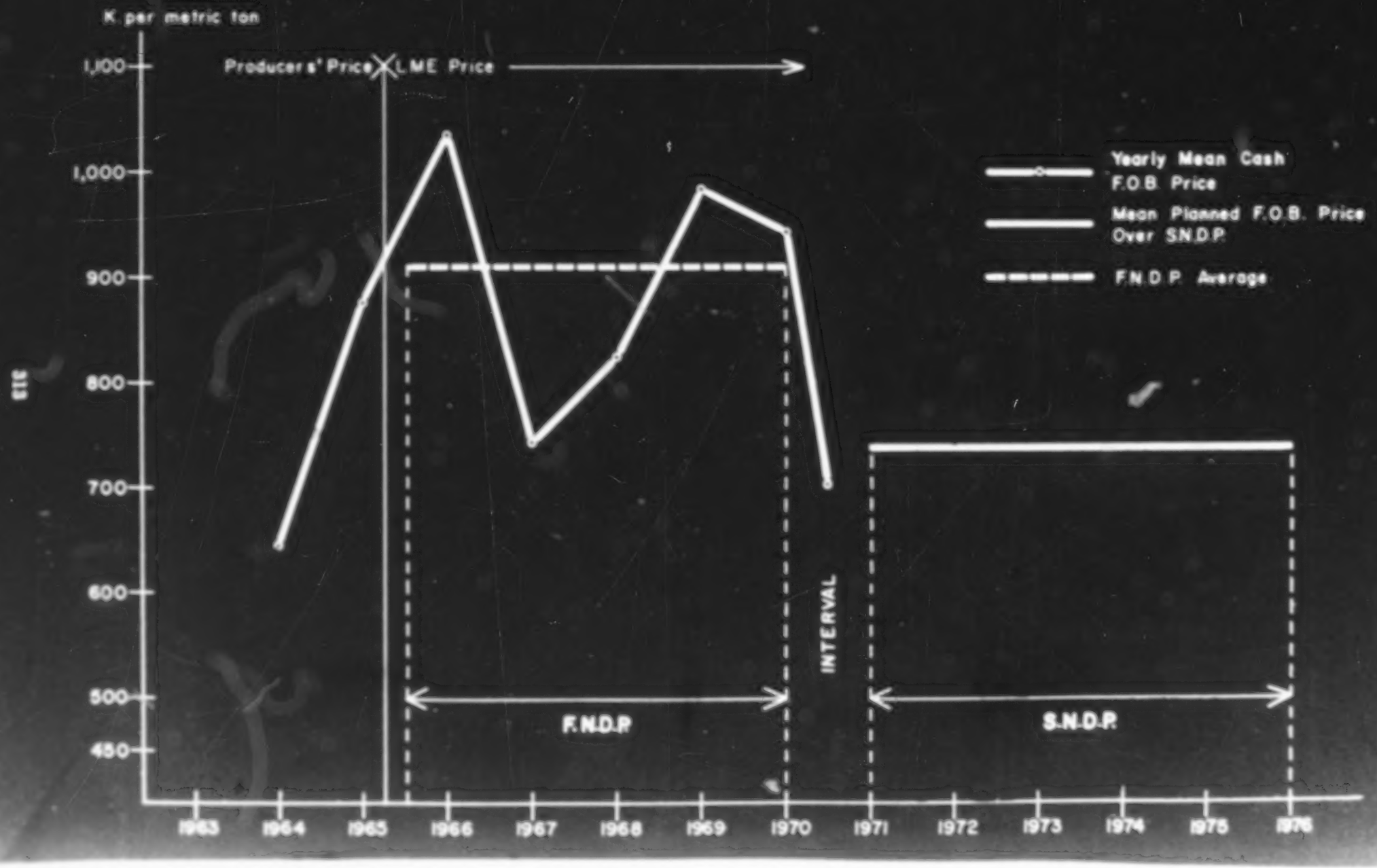
	1965	1966	1967	1968	1969	1965–69	1976	1976 with terms of trade effects
Imports value, f.o.b. ..	210.7	246.1	306.4	323.2	311.8	1,400.2	540.0	
Freight	27.8	40.4	54.8	65.3	60.0	248.3	110.0	
Imports value, c.i.f. ..	238.5	286.5	361.2	390.5	371.8	1,648.5	650.0	
Import duties	12.5	14.6	18.6	20.5	30.0	96.2	50.0	
Internal value of imported goods	251.0	301.1	379.8	411.0	401.8	1,744.7	700.0	
Imports of services	20.8	41.4	42.7	48.4	52.6	205.9	60.0	
Internal value of imported goods and services ..	271.8	342.5	422.5	459.4	454.4	1,950.6	760.0	646
Gross Domestic Product (GDP)	649.9	782.3	891.1	989.4	1,260.7	4,573.4	1,600.0	1,505
Share of internal value of imported goods and services in GDP ..	41.8%	43.8%	47.4%	46.4%	36.0%	42.7%	47.5%	42.9%

Table 6—SNDP Balance of Payments (Summary)
(K million, current prices)

	1970	1972	1973	1974	1975	1976	1972–76
Exports, f.o.b.	715	564	638	706	718	740	3,366
Imports, c.i.f.	425	485	535	595	615	650	2,880
Balance	+290	+79	+103	+111	+103	+90	+486
Services, net	−50	−50	−55	−60	−65	−70	−300
Balance on goods and services	+240	+29	+48	+51	+38	+20	+186
Investment Income:							
Private, net	−70	−30	−32	−35	−35	−35	−167
Government, credits	+15	+15	+17	+19	+22	+20	+93
Government, debits	−10	−16	−20	−20	−20	−22	−98
Transfers:							
Private, net	−50	−46	−45	−44	−42	−40	−217
Government	−5	−6	−7	−8	−9	−10	−40
Private long-term capital, net	+10	+10	+10	+13	+16	+20	+69
Public long-term capital inflow	+30	+60	+75	+90	+85	+85	+395
Amortisation	−20	−30	−35	−38	−40	−43	−186
Changes in Foreign Exchange Reserves ..		−14	+11	+28	+15	−5	+35

Appendix III

MOVEMENT OF COPPER PRICES



Notes to Appendix III

1. The LME f.o.b. copper price—in Zambian conditions this is used to express 'free-on-rail' price—is an estimated average monthly LME exchange price for settlement and cash sellers' price for electrolytic wire bars, excluding transportation costs.

2. Copper sales, during the past, fell under two distinct price phases. During the first phase, producers' prices and during the second phase, LME prices dominated the market for copper. Producers' prices dominated the market till about April, 1966, when Zambian producers shifted to LME prices. The producers' price policy has been followed from January, 1964, and had its base in the consideration that the LME, by its very nature, exaggerated the short-term supply and demand fluctuations while being at the same time a very small market for physical transaction of copper. Later, the producers have become attracted by high LME prices and the policy of sales was drastically changed in favour of the London Metal Exchange.

3. For calculating planned price for copper over the 1972–76 period, the following series of LME average c.i.f. and f.o.b. prices, based on an approximation of the composition of Zambian export by main products, were used:

Planned Copper Prices, 1972–76 (K per metric ton)

	1972	1973	1974	1975	1976
LME c.i.f	775	790	805	810	816
LME f.o.b	715	730	745	750	756

Accordingly, the weighted average of the LME f.o.b price is equal to K740 for the SNDP period. This is indicated on the graph, the thick, continuous line, spreading over 1971 end to 1976 end.

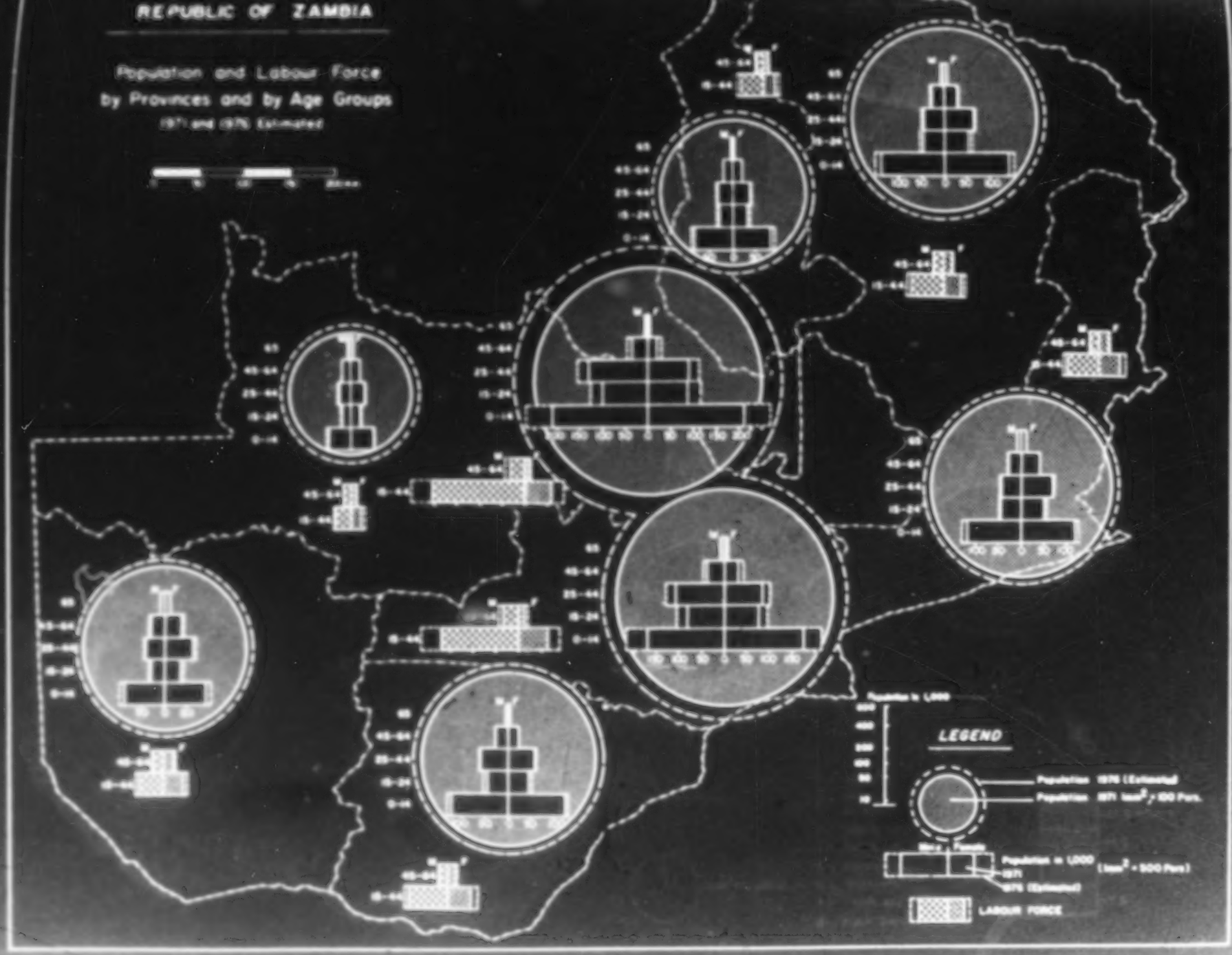
4. The period of the FNDP is indicated on the graph. It started on 1st July, 1966, and ended on 31st December, 1970. The year-markings on the base of the graph signify the end of each calendar year.

REPUBLIC OF ZAMBIA

GEOLOGICAL SURVEY
REGIONAL MAPPING 1972-76
Reconnaissance
Areas mapped or being mapped
1:250,000 compilation in hand or completed
Areas to be mapped 1972-76
Areas to be compiled
Areas to be mapped on a reconnaissance basis
ZAIRE
ANGOLA
ZAMBEZI
KAOMA
MOZAMBIQUE
RHODESIA
CAPRIVI STRIP
MALAWI
KAWAMBWA
MANSA
MPIKA
CHILILABOMBWE
KITWE
NDOLA

REPUBLIC OF ZAMBIA

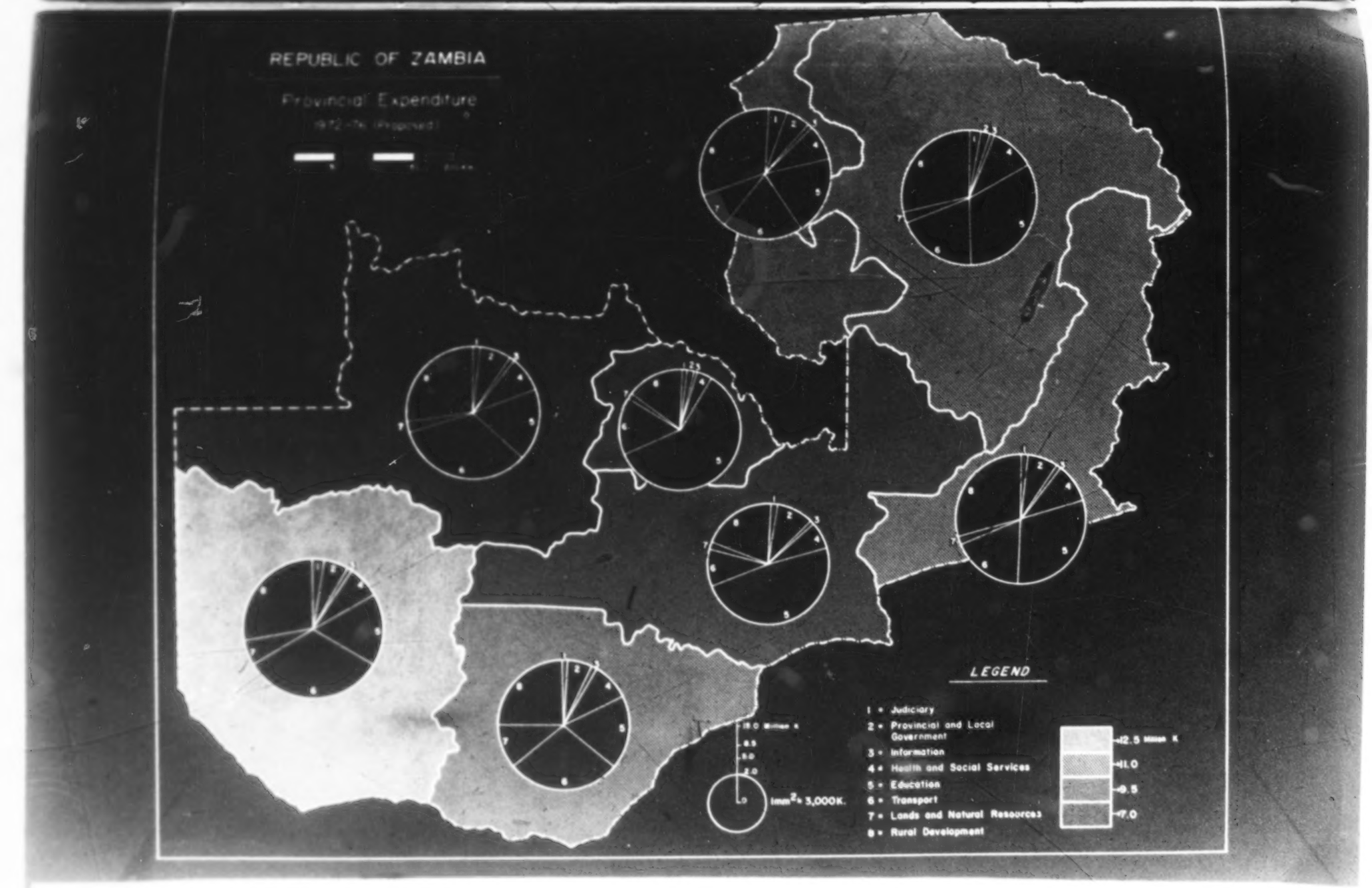
Population and Labour Force
by Provinces and by Age Groups
(1971 and 1976 Estimates)



REPUBLIC OF ZAMBIA

Provincial Expenditure

1972-76 (Projected)



REPUBLIC OF ZAMBIA

Miles 10 0 10 20 30 40 50 60 70 80 90 100 Miles

Provincial Boundaries
Provincial Headquarters
Towns
Roads
Railways
Aerodromes

ZAIRE
TANZANIA
MALAWI
MOZAMBIQUE
RHODESIA
NAMIBIA
BOTSWANA
ANGOLA
ANGOLA

NORTHERN
LUAPULA
NORTH WESTERN
COPPERBELT
EASTERN
CENTRAL
WESTERN
SOUTHERN

TANGANYIKA
MWERU
Mweru Wantipa Nat. Park No. 5
Bundi Nat. Park No. 6
Mbala
Nchelenge
Lusenga Plain Nat. Park No. 7
Mporokoso
Kawambwa
Luwingu
Kasama
Isoka
Chinsali
Nyika Nat. Park No. 12
Mansa
Samfya
BANGWEULU
Isangano Nat. Park No. 8
Chambeshi
Chama
Luapula
Mpika
Lavushi Manda Nat. Park No. 9
Luangwa North National Park No. 2
Mwinilunga
Solwezi
Chililabombwe
Chingola
Mufulira
Kitwe
Ndola
Luanshya
West Lunga
Kabompo
West Lunga Nat. Park No. 14
Kasenka Nat. Park No. 10
Luambe Nat. Park No. 4
Lundazi
Luangwa South
Lukusuzi Nat. Park No. 3
Serenje
National Park
Mkushi
Chipata
Kapiri Mposhi
Petauke
Katete
Kasempa
Zambezi
Kabompo
Kafue
Luangwa
Kabwe
Liuwa Plain Nat. Park No. 15
Kaoma
Kalabo
Mongu
Kafue National Park No. 11
Mumbwa
LUSAKA
Feira
Zambezi
Kafue
Lochinvar Nat. Park No. 13
Mazabuka
Senanga
Chirundu
Monze
Gwembe
Chonje
Kalomo
Kariba
Sioma Ngwezi Nat. Park No. 16
Sesheke
Zambezi
Livingstone
Masi Oa Tunya N.P. No. 17

Compiled and Drawn by the Survey Department Lusaka 1972